CUL-H04445-13-G55029

JOURNAL OF

ANCIENT INDIAN HISTORY

VOLUME XVII, PARTS 1-2 1987-88

EDITED BY

D. R. DAS

CALCUTTA UNIVERSITY
1990

BOARD OF EDITORS

CHAIRPERSON

Prof. (Mrs) BHARATI RAY, M.A.,Ph.D.
Pro-Vice-Chancellor for Academic Affairs

EDITOR

D. R. DAS, M.A., Ph D.
Head of the Dept. of
Ancient Indian History & Culture

TEACHER MEMBERS

AMITABHA BHATTACHARYA, M.A., Ph.D.
Sm JUTHIKA MAITRA, M.A., Ph.D

SECRETARY

SUBHAS CHANDRA BANERJEE, M.A., P.R.S, Ph,D,
Secretary, University Colleges of Arts & Commerce

Published on behalf of Calcutta University by
Dilip Kumar Mukherjee

and

Printed by the Modern Printers, 61/B, Shyampukur Street,
Calcutta-700004

Price Rs. 40.00

JOURNAL OF

ANCIENT INDIAN HISTORY

VOLUME XVII, PARTS 1-2, 1987-88

13

EDITED BY

D. R. DAS

CALCUTTA UNIVERSITY
51/2, Hazra Road, Calcutta-700019
1990

JCU 403

GS 5029

CONTENTS

ARTICLES Page

The Neolithic Cultures of the Northern Vindhyas and the Middle Gangetic Plain—J. N. Pal 1-15
Megalithic Remains in the Upper Mahānadī Valley of Orissa—Sadasiba Pradhan 16-22
Sequence of Acheulian Culture in West Bengal : Geochronological and Morphometric Study —Manibrata Bhattacharya 23-66
Palaeolithic Settlement Patterns of West Bengal —Reba Roy 67-88
Chalcolithic and Copper Hoard Culture in West Bengal—A Comparative Study—Asok Datta 89-101
Chaṅdchaura Stone Inscription, Samvat 1552 and Śaka 1417—D. C. Sircar 102
Aṅka Year : A Study on Chronography —P. K. Nayak 103-118
A Note on the Āgama Literature in Central Asia and China—Kshanika Saha 119-121
Socio-Economic Terms in the Kharoṣṭī Inscriptions of the Indian Subcontinent—B. N. Mukherjee 122-134
Socio-Economic Conditions in South Orissa—A Survey From the Earliest Times To A.D. 1568 —Sishir Kumar Panda 135-163
The Maṭhas of Eastern India in the Early Medieval Period—Amitabha Bhattacharyya 164-178
Contribution of Jainism to Indian History —Asim Kumar Chatterjee 179-188
Flute on Indian Coins—Samaresh Bandyopadhyay 189-198

Ambari—An Important Workshop of Mediaeval Art—R. D. Choudhury 199-203
An Approach to the Erotic Sculpture of the Ramappa Temple—M. Krishna Kumari 204-211
Rāmakathā Scenes in the Siṁhanātha Temple, Orissa—Maruti Nandan Tiwari and Kamal Giri 212-221

REVIEWS OF BOOKS

Rise and Fall of the Imperial Guptas by Ashvini Agrawal (D. R. Das) 222-225
Encyclopaedia of Indian Temple Architecture, Vol. 2 North India : Foundations of North Indian Style, ed. M. W. Miester, M.A. Dhaky and Krishna Deva (D. R. Das) 225-228
Kalātattvakoṣa, ed. Kapila Vatsyayan (Asok K. Bhattacharya) 229-232
Modern Accounting Concepts in Kauṭilya's Arthaśāstra by Anjan Kumar Bhattacharyya (Amitabha Bhattacharyya) 232-235
Prācin Bhārater Lekha Sāhitya (in Bengali) by Bharat Kumar Ray (Subid Chatterjee) 236-237
Origins of the Gandharan Style by Lolita Nehru (D. R. Das) 237-239

THE NEOLITHIC CULTURES OF THE NORTHERN VINDHYAS AND THE MIDDLE GANGETIC PLAIN

J. N. Pal *

The antiquity of cultural relations of the Vindhyas and the middle Gangetic plain goes back to the terminal Pleistocene period when the Vindhyan prehistoric human groups moved for the first time towards north across the Yamunā and the Gaṅgā to colonise the Gangetic plain. Having ecologically and geomorphologically contrasting features, the hilly tract of the Vindhyas and flat alluvial plain of the Gaṅgā, as the archaeological evidence shows, continued their relations till the early historic period, and cultures of both the regions have influenced each other to a considerable extent.

The area under study lying between 24°N and 27°50′ N Latitute and 81° 47′ 29″ E and 87° 50′ E Longitute is bounded by the Himalayan *tarai* in the north and the Son in the south, the Allahabad-Faizabad railway line in the west and Bihar-and West Bengal State's border line in the east. The region comprises two contrasting ecological environments : (1) rocky plateau of the northern Vindhyas in the south and (2) flat alluvial plains of the Gaṅgā in the north.

The northern Vindhyan plateau forms parts of Bundelkhand and Baghelkhand regions. It is a hilly tract marked by rugged and diversed topography which gradually merges with the alluvium of the Gaṅgā plain. A number of small rivulets, tributaries and sub-tributaries of the Gaṅgā and the Śon system have fertile narrow basins. Many of the sites of early Holocene period are located in these river basins. The main rivers and rivulets' of the northern Vindhyas are the Tons alongwith its tributaries the Belan, Adwa, Lapārī., Karmanāsā and Candraprabha of the Gaṅgā system, and Kanhar, Paapu, Lauwa, Thema, Gopad and Narkuin of the Śon system.

---

* **Dept. of Ancient Indian History, Culture & Archaeology, Allahabad University, Allahabad—211002**

The middle Gangetic plain is drained by the Gaṅgā and its tributaries mainly the Ghaghrā, Kuātī, Choṭi Gaṇḍak, Burhi Gaṇḍak, Kośi, Varuṇā, Gomàtī, Son etc. There are numerous oxbow lakes from which emerge small rivers of the area.

The climate of the area is characterized by a long hot summer, a pleasant monsoon and cold winter. The annual average ranifall is about 976 mm. A variety of wild flora still survive in the Vindhyas while in the Gangetic plain, due to extensive cultivation, the forests now are confined to isolated patches of forests specially of dhak (*Butea monosprema*), Sihor (*Streblus asper*) etc. Among the wild floral species predominant in the Vindhyas, mention may be made of besides dhak and sihor, kardhai (*Anageissus*), dhawa (*Anggeissus latifolia*), mahua (*Madhuca indica Gmel*), salai (*Boswellia melanoxycon*), bahera (*Terminalia bellerica*), semal (*Salmaliama labarica*), babul (*Acacia arabica*), khair (*Acacia catechu*) etc.

Among the wild fauna still surviving, despite reckless shooting and destruction of forests, are leopard (*Panthera pardus*), wolf (*Canis lupus*), jackal (*Canis aureus*), fox (*Vulpes bengalensis*), bear (*Melansus ursinus*), hyaena (*Hyaena striate*) and boar (*Sus scrofa*), chital (*Axis axis*), black buck (*Antelope cervicapra*), nilgai (*Boselephas tragocamelas*), barking deer (*Muntiacus muntjak*) etc. Some of these, specially deer, antelope and boar, used to roam in herds in the middle Gangetic plain some fifty years ago.

Due to abundant flora-fauna and easy availibility of raw material for the tools, the Vindhyan plateau was inhabited by the prehistoric man right from the middle Pleistocene period and we get a complete geological and cultural sequence of the Pleistocene and Holocene period in the Vindhyas, whereas in the middle Gangetic plain the evidence of human culture is dated to the terminal Pleistocene and early Holocene period when we get the cultural relics of Epi-palaeolithic and Mesolithic cultures.

The initial research of Neolithic culture was restricted to the surface collection of celts, adges and hammer stones. A good number of the Neolithic celts was collected in the latter part of the nineteenth century.[1] Subsequently, during 1950s to 80s the archaeologists of the University of Allahabad and the Banaras Hindu University collected a large number of Neolithic artefacts during surface explorations. Majority of the artefacts were found in secondary context lying in the field or below the trees. Morphologically the Neolithic celts are divisible into two major groups : (1) triangular celts marked with curved medial ground edges corresponding to the principal type of south Indian Neolithic celt and (2) rounded celt marked with rectangular or ovaloid cross section, fully ground and polished, corresponding to the eastern Indian Neolithic celts. It is interesting to note that the western part of the northern Vindhyas is predominated by the first group of the celts while in the eastern part the second group is dominating.[2] The archaeological investigations carried in the eastern part have led to the location of some primary sites associated with rounded variety of celts and excavations of these primary sites of the Neolithic culture have furnished valuable information regarding different aspects of the Neolithic culture of the area.

In the middle Gangetic plain, though a large number of primary sites of the Mesolithic culture have been located in its western part, the Neolithic sites are totally absent in this area.

From some of the sites of early historic period of the middle Gangetic plain the stone celts were reported, but the Neolithic artefacts in primary context were found for the first time at Chirand[3] that established the existence of the Neolithic culture in the Gangetic plain. The subsequent archaeological investigations carried out by the Gorakhpur University, Banaras Hindu University, Patna University, Patna Circle of the Archaeological Survey of India and Directorate of Archaeology and Museums, Bihar Government, have brought to light several sites of the first farming culture in the central part of the middle Gangetic plain. The habitation sites, generally having overlying thick deposits of Chalcolithic and early historic period, pose practical difficulty in exposing the earlier horizon in a big area.

The excavation of some of the habitation sites in the Vindhyas and the Gangetic plain has enriched our knowledge of the culture in the area. The excavated sites in the northern Vindhyas include Koldihwa, Mahagara, Indari and Kunjhun and in the Gangetic plain Chirand, Chechar-Kutubpur, Taradih, Senuwar and Sohgaura.

Situated at a distance of 80 km south-east of Allahabad on the left bank of the Belan, Koldihwa[4] is the first excavated site of the Vindhyas which yielded the rounded celts and cord impressed pottery (PL. I), a diognostic trait of the culture of the area. The original mound, divided into several small mounds by rain gullies and nalas, has neolithic deposit on its western and southern mounds. The habitation deposit of 1.90 m is divisible into three cultural periods—(I) Neolithic (II) Chalcolithic and (III) Iron Age. The Neolithic deposit of 45 cm divisible into two layers yielded celts, bored stones, hand made pottery, microliths, food processing equipments in the form of quern, mullers, hammer stones, animal bone fragments and burnt clay lumps with wattle and daub impressions.

Mahagara is situated just opposite to Koldihwa on the right bank of Belan near the confluence of old and new Belans. The site in a basin-shaped depression is surrounded by a natural ridge of Pleistocene geological formations on the north, east and south sides. Excavation in the Index trench revealed 2. 60 m thick Neolithic deposit divisible into 17 layers.[5] The site being a single culture site was excavated horizontally in 1622 sq m area and revealed evidence of cattlepen, hut floors marked with pottery, celts, ring stones, slingballs, microliths, bone tools, burnt clay lumps, animal bone fragments, quern-mullers, hammers, anvils, perforated pottery discs, terracotta beads etc.

Located at a distance of 2.5 km north-west of Koldihwa, near the right bank of Belan the site of Pachoh was also put to small scale excavation and yielded the Neolithic artefacts in a 60 cm thick deposit.[6] The site being under cultivation has only basal deposit intact.

In the Adwa valley two Neolithic habitation sites, Indari and Baraunha were located during surface explorations in the Mirzapur District. The site of Indari situated in a basin-shaped depression as that of Mahagara yielded Neolithic artefacts in a trial excavation.[7]

Kunjhun located on the right bank of the Śon in the Sidhi District of Madhya Pradesh is the southernmost Neolithic settlement of the Vindhyas. A surface collection from the site included celts, bored stones, microliths, terracotta dabber, pottery, animal bone fragments and terracotta bangle fragments. To the west of the habitation site a few fresh potsherds, microliths and animal bone fragments were found deposited in the river section. The excavation in a step trench revealed that these artefacts, coming from the neighbouring habitation site, were deposited in several levels in the Khetaunhi formation (the last terrace of the Śon).[8]

Chirand is situated on the left bank of the Gaṅgā in the Saran District of Bihar. Having a multicultural thick deposit ranging from the Neolithic to the Pāla period, the site was excavated[9] for a number of years.[10] The Neolithic level revealed the structural remains of hut floors and a good number of artefacts, pottery, microliths, celts, bone tools, terracotta figures and beads of semiprecious stones.[11]

A small scale excavation at Chechar Kutubpur,[12] situated on the northern bank of the Gaṅgā in the Vaisali District of Bihar revealed a three-fold cultural sequence. The earliest, Period I, is further divisible into three sub-periods-IA, IB and IC. Sub-period IA brought to light artefacts similar to Period I of Chirand.[13]

Taradih, situated to the south-west of the Mahābodhi temple at Bodh Gaya in the Gaya District of Bihar, also has a multicultural deposit ranging from the Neolithic to the historical period.[14] The site is being excavated[15] since 1981-82,[16] but the Neolithic horizon was brought to light in the excavations of 1984-85 when a 60 cm thick occupation deposit of Period I revealed hand made pottery, Neolithic celt, microliths, bone objects, terracotta objects and burnt clay lumps with wattle and daub impressions and hearths of different sizes.

The site of Senuwar was brought to light during archaeological investigation in the Kaimur foot hills in the Rohtas District of Bihar. A good number of sites of early farming culture was brought to light in alluvial plains near Kaimur foothills during the investigaion in 1986-87 and one of these Senuwar, situated on the bank of a rivulet Kudra, was put to excavation.[18] Like other sites of the plain, this has also overlying thick deposit of subsequent periods. The cultural deposit, as revealed from excavation, is divisible into four periods: (I) Neolithic,(II) Chalcolithic, (III) NBPW period and (IV) Kuṣāṇa period. The Neolithic phase is further divisible into two sub-phases, IA and IB. The phase IB has evidence of copper and may be termed as transitional phase of the Neolithic and Chalcolithic cultures.[19] The site located in a region between the Vindhyas and the Gangetic plain is remarkable for its bone tools, ceramic industry and other Neolithic artefacts.

Sohgaura, located on the confluence of the Ami and Rāptī in the Gorakhpur District of Uttar Pradesh, also has a Neolithic base.[30] The excavation[31] of cultural deposit of 90 cm in the lowest level yielded hand made pottery of cord impressed, rusticated and burnished red wares along with burnt clay lumps, quern fragments, hearth and beads of bone and steatite.[2]

The Neolithic sites are located on the banks of small rivers generally above the flood plain. The easy availability of water and fertile land by annual innundation were the main reason for making settlements on the river banks. The sites like Mahagara and Indari in the Vindhyas are located in basin-shaped depression surrounded by natural ridge which provided security against cold/hot wind. The location of sites in proximity of forests facilitated the people in exploiting the wild plants and animals.

The evidence of structure have been found in the form of circular or oval hut floors. At the sites, where excavations were done in a restricted area, the evidence of structure is found in the form of burnt clay lumps with wattle and daub impressions suggesting thatched huts. Plans of circular hut floors have been unearthed at Mahagara and Indari in the Vindhyas and Chirand in the Gangetic plain. The 18 hut floors were exposed in the last phase of Neolithic occupation at Mahagara. The average living area covered by hut floors is 15.74 sq. m. The diameters of the circular floors varied from 6. 40 m and ovaloid floor ranged in longer axis 6.40 m to 3.40 m and shorter 4.20 m to 2.80 m.[28] The floors are surrounded by post holes, varying from 6 to 9 in number on their periphery. The posts supported the upper roof as well as the side screen. Evidence of circular or semi-circular huts of about 2 m in diameter with rammed floor also have been found from the excavations at Chirand.

The cattlepen exposed at Mahagara in the south-east sector of the site is another evidence of structural activity. Irregular rectangular on plan, measuring 12.5 x 7.5 m and demarcated by post holes on the periphery, the cattlepen is surrounded by hut floors on its four corners. Cluster of hoof imprints of cattles of different age groups were found in the cattlepen.[24]

The cultivation of plants and domestication of animals are well attested by the recovery of botanical and faunal remains from almost all the excavated sites. The rice was widely cultivated in the area. Almost all the sites, excavated as well as unexcavated, have produced the evidence of rice in the form of rice husk used as degraissant in the pottery (Pl. 2). These include both the cultivated *oryzasativa* and wild annual *oryza nivara* and perennial *oryza rufigpogon.* The excavation at Chirand has yielded a variety of cultivated grainswheat (*Triticum sphaerococum*), barley (*Hardeum vulgare*), moong (*Vigna mungo*), massor etc. The charred grains of barley (*Hardeum vulgare*) also have been found at Mahagara.[25] The evidence suggests that the winter as well as summer crops were in vogue during the Neolithic period.

A good number of animal bones has been unearthed during excavation of the sites. Though the identification of animal species has not finally been done from most of the sites, the evidence of domesticated cattle and sheep-goat is noteworthy.[26] The early farming communities of the Vindhyas did not depend only on cultivation of plants and domestication is attested not only by the hunting tools but also by the faunal and floral remains of wild species. The wild rice (*oryza nivara*) from Koldihwa, Mahagara, Indari and Sanwa, *Echinochloa crusgalli* from Koldihwa and bone fragments of deer, antilope, boar and birds suggest that the hunting and collecting of wild food was as important as the domestication and cultivation. The rivers on whose bank the sites are located also provided food material in the form of fish, tortoise etc. whose bones have been recovered from excavation. The other botanical remains, recovered from excavation, include imprints of *Schaimum rugosum*, a common weed grown in marshy paddy fields and used as fodder, bamboo and jujube.

Pottery is one of the richest cultural assemblage of the Neolithic culture of the Vindhyas and the Gangetic plain. On the basis of surface treatment, the ceramic industry of the Vindhyas has been divided into four major groups · (I) Cord impressed ware, (II) Rusticated ware, (III) Burnished red ware and (IV) Burnished black, ware.[37] The clay used for shaping the pottery is not well levigated and contains calcium and iron nodules. Richly tempered with husk, leaves, straw and cowdung, hand made pottery has coarse to medium fabric. Due to the organic temper and ill firing the colour of core is blackish. The unslipped cord impressed and rusticated wares have dull red surface and burnished red and burnished black ware, due to application of red slip and black slip respectively, have generally bright red and black surface. The functional types, simple but to some extent standardised, include convex, straight or tapering sided deep and shallow bowls, tubular spouted bowls, straight concave or carinated necked jars, basins, handis and platters. The decoration of pottery is confined only to applique and incised designs.

The ceramic industry of the Neolithic Gangetic plain is richer in wares, typology and decorative patterns. It is also technologically advanced in comparision to that of the Vindhyas. The pottery is handmade and turn table thrown. Besides cord impressed and rusticated wares, red, grey, black and black and red wares have been reported from Chirand and Taradih. Burnishing has been done on the red and grey ware pots. Some of the grey burnished ware pots have post firing ochre paintings on their rim and profile. The decoration in the form of incised and thumb-nail, rope and impressed designs have been found on the pots. Among the functional shapes mention may be made of globular jars, vases, handis with out-turned rims, perforated vessels, lipped or spouted bowls, deep bowls, cups with hollow ring bases, cups with solid stands etc.

The ceramic industry, as evident by above description of both the regions, has many common features. Not only the manufacturing technique of the wares but even the functional pottery shapes are also similar to the ceramic assemblage of the Neolithic cultures of both the regions. That the ceramic assemblage of the Gangetic plain is techno-typologically much advanced is made evident by some peculiar functional types restricted only to the ceramic assemblage of the Gangetic plain.[28] These include spouted vase with pointed base, footed bowls, perforated bowls on stand, channel spouted vessels, bowls with lips, spoon or paddle knobbed vessels. Applique decorations, representing rope and notch designs, are common to both the regions. Post-firing ochre paintings, represented by linear, criss-cross, concentric circles, semi-circles and post-firing scratch designs on some of the pottery of Chirand and Taradih, are new features not present in the Vindhyas.

The ceramic industry, especially the cord impressed ware (Pl. 1), which has been considered as a distinctive ware of the eastern Asiatic Neolithic complex[29] being present in Assam Neolithic culture and widely distributed in South East Asian Neolithic culture, presents a binding trait of the cultures of the hilly tract and the plain.

The small sized rounded celts and adzes are the other common cultural traits of the Vindhyan and Gangetic Neolithic cultures. Fully ground and polished neoliths are typologically divisible into celts, adzes and chisels. The celts are of small rounded variety with rectangular or ovaloid cross section. The butt end is rounded but occasionally flattened. Many of the beautiful small celts and adzes have use marks on their sharp working edges. The neoliths have been fashioned on basalt, granite and quartzite. As there are no waste pieces, flakes and chips of the raw material of neoliths, it may be assumed that these were manufactured at the source of raw material and were brought to the settlement in finished form. The possibility of primitive trade contact with a culture in the region of the source of raw material cannot be ruled out.

The artefacts fashioned on quartzite and sand stone by pecking and grinding technique include querns, mullers, sharpeners, rubber stones, hammers, anvils, stone discs, sling balls and bored stones. Most of these were food processing equipments and some were tool fabricators and hunting tools. The querns, morphologically, fall into two groups, viz. (I) basin shaped querns with smooth lustrous surface bearing concentric circular use marks and (II) flat querns with pitted surface. The mullers are also marked with smooth or pitted surface and have unifacial or multifacial working surface.

The Neolithic cultures of the Vindhyas and the Gangetic plain are also marked with microlithic industry, though in the latter region it is not so prolific. The microliths have been fashioned on chalcedony, chert, agate, carnelian and jasper. The presence of chert and chalcedony nodules and waste material, i. e. cores, flakes, blades and chips along with fiinished and utilized tools, suggests that the microliths were fashioned on the shttlement itself. The microlithic tool types, include retouched blades, backed blades, truncated blades, serrated blades, points, awls, scrapers, triangles, trapezes and lunates. Some of the blades and flakes also have use mark on their lateral edges.

The bone artefacts are one of the marked features of the Gangetic Neolithic culture. In the Vindhyas only bone arrowheads with single tang and pointed end have been found from Mahagara. A variety of bone artefacts, tools and other utilitarian objects have been found from Chirand,[30] Taradih,[31] Senuwar[32] etc. in the middle Gangetic plain. Antlers, split shafts of long bones and tortoise shells were utilized for manufacturing these artefacts, which include spear-point, bodkin, borer, pin, arrowhead, divider, scraper, leather-cutting tool, wedge, chisel, weeding tool, drill, shaft straightner, hammer, barcelet, knife, socketed comb, pendant, discs, ear-ring, bangle etc.

Other artefacts peculiar to the Gangetic Neolithic culture include beads of semi-precious stones (from Chirand), steatite beads (from Sohgaura), bangles of terracotta, terracotta figurines of humped bull, bird and snake (from Chirand) and terracotta ball and archaic animal figurine (from Taradih). Terracotta beads (from Mahagara) and terracotta bangles (from Kunjhun) are also present in the Vindhyas.

Though we do not have direct stratigraphic evidence to show the evolution of Neolithic farming culture from the Mesolithic hunting-gathering culture, many cultural traits such as microlithic industry, bone tools, food processing equipments, tool fabricators, hand made pottery and hutments may be treated as surviving traits of the former culture in the Vindhyas. Some of the plants and animals which were domesticated in the Neolithic period were already present in wild form. It seems that the Vindhyan Neolithic transformed from the Mesolithic culture of the area and thus indigenous origin of the Vindhyan Neolithic may be proposed. The available record of archaeological data of the Neolithic cultures of the Vindhyas and the Gangetic plain suggests that though the early farming cultures of both the regions have several common features, the latter has some additional features of its own which present technological advancement. It tends to infer that possibly the Gangetic Neolithic culture has its roots in the Vindhyan Neolothic culture and it evolved certain distinctive features, bone artefacts, terracotta objects, beads of semi-precious stones and many new elements in the ceramic industry.

In the absence of dependable and consistent ^{14}c dates the problem of the chronology of the culture is not finally resolved. The ^{14}c dates from Koldihwa assigning early date to the Vindhyan Neolithic are not dependable.[33] The dates from Mahagara are not consistent to stratigraphy possibly due to contamination of samples. However, the absolute dates obtained from Mahagara include two TL dates reading 2265 and 1616 B. C. and four ^{14}c dates reading 1440 ± 150 B.C., 1330 ± 120 B.C., 1440 ± 100 B.C., and 1480 ± 110 B. C. A ^{14}c date from transitional phase of the Neolithic to Chalcolithic at Koldihwa reads 1440 ± 120 B. C. From the Neolithic level of Chirand nine ^{14}c dates are available of which three are consistent, viz. 1580 ± 110 B. C., 1675 ± 140 B. C. and 1775 ± 155 B. C. The Neolithic-Chalcolithic overlapping phase also has a ^{14}c date reading 1050 ± 10 B.C. These ^{14}c dates give a time bracket of 1800 to 1200 B C. to Neolithic Chirand.[34] Period I B, the Neolithic-Chalcolithic level at Senuwar, also has a ^{14}c date reading 1770 ± 120 B. C. Thus the present evidence suggests a date of 3rd-2nd millennium B. C. to the Neolithic culture of northern Vindhyas and middle Gangetic plain.

NOTES

1 Le Mesurier in *Proc. of the Asiatic Society of Bengal*, 1861, p. 81-85 ; W. Theobold in *ibid.*, p. 221 ; J. Cockburn, 'Notes on the Stone Age Implements from Khasi Hills and the Banda and Vellore Districts', *Journ. of the Asiatic Society of Bengal*, 1879, p. 133-43 ; *ibid.*, 1894, p. 21-37 ;

Rivett-Carnac, 'On Stone Implements from the North-Provinces of India, *ibid.*, 1883, p. 221-30.

2 J. N. Pal, 'Bases of the Neolithic Cultures of the Middle Ganga Valley, *Journ. of the G. N. Jha Kendriya Sanskrit Vidyapith, Prof. Baldeo Upadhyaya Felicitation Volume*, 1983, p. 205-16.

3 *Indian Archeology—A Review* (abv. *IAR*), 1962-63, p, 6.

4 The site was excavated by B. B. Misra and R. Singh of the University of Allahabad in 1972-73 and 1973-74 and subsequently by D. Mandal and J. N. Pal in 1974-75 under the superivision of G. R. Sharma.

5 The excavation was done during 1976-79 by D. Mandal and J. N. Pal under the supervision of G. R. Sharma, R. K. Verma and V. D. Misra.

6 This site also was excavated by B. B. Misra in 1975-76.

7 *IAR*, 1980-81, p. 72.

8 A joint team of archaeologists of the University of Allahabad and University of California, Berkley, excavated the site in 1982 under the supervision of G. R. Sharma and J. Desmon-Clark.

9 The site was excavated by archaeologists of the Patna University under the supervision of B. P. Sinha from 1962 to 1972-73 and subsequently under the supervision of B. Sahai during 1980-81 and 1981-82.

10 L. A. Narain, 'Neolithic Settlement at Chirand', *Journ. of the Bihar Research Society*, Vol. LVI, p. 1-35 ; *id.*, 'The Neolithic Cultures of Eastern India', in D. P. Agrawal and D. K. Chakrabarti (ed.), *Essays on Protohistoric India*', p. 301-309.

11 B. P. Sinha, *Archaeology and Art of India*, Delhi, 1979.

12 The excavation was conducted by R.S. Bisht, the then Superintending Archaeologist of the Patna Circle, A.S.I.

13 *IAR*, 1977-78, p. 17f.

14 *Ibid.*, 1984-85, p. 9f.

15 A. K. Prasad of the Directorate of Archaeology and Museums, Bihar, has been excavating the site since 1981-82.

16 *IAR*, 1981-82, p. 10-12.

17 B. P. Singh, 'Early Farming Communities of Kaimur Foothills', read at the annual conference of IAS and ISPOS at Santiniketan in 1988.

18 The site was excavated by B P Singh of the Banaras Hindu University in 1985-86 and 1986-87

19 Singh, *loc. cit.*

20 *IAR*, 1974, p. 46f.

21 The Exacavation was conducted by S.M. Chaturvedi of the Gorakhpur

University in 1961-62 and subsequently in 1974-74.

22 S. N. Chaturvedi, 'Advance of Vindhyan Neolithic and Chalcolithic Cultures to the Himalayan Tarai : Excavations and Explorations in the Saryupur Region of Uttar Pradesh', *Man and Environment*, Vol. IX, 1985 p. 101-08.

23 D Mandal, 'Neolithic Cultures of the Vindhyas : Excavations at Mahagara in the Belan Valley', read at the annual conference of IAS and ISPOS at Allahabad in 1980.

24 G. R. Sharma and D. Mandal, *Excavations at Mahagara*, Allahabad, 1980.

25 Vishna Mitre and Arun Sharma, 'Neolithic, Chalcolithic Food Economy of Eastern Uttar Pradesh', paper presented in the seminar of Indo-Soviet joint project at Allahabad in 1982.

26 K.R Alur, 'Faunal Remains from the Vindhyas and the Ganga Valley' in Sharma et al *Beginning of Agriculture*, Allahabad, 1980.

27 J. N Pal, *Archaeology of Southern Uttar Pradesh : Ceramic Industries of Northern Vindhyas*, Allahabad, 1986.

28 Same as f.n. 2.

29 T. C. Sharma, 'The Neolithic Pattern of Eastern India', read at the annual conference of IAS and ISPOS at Allahabad in 1980.

30 L. A Narain in Agrawal and Chakrabarti (ed). *loc. cit.*

31 *IAR*, 1984-85, p. 10.

32 Nina Thakur, Vidula Jayaswal, B. P Singh and P. C. Pant, 'Bone Tools from Senuwar', read at the annual conference of IAS and ISPOS at Santiniketan in 1988.

33 Same as f.n. 27.

34 D. P. Agrawal and Sheela Kusumgar, *Prehistoric Chronology and Radio-carbon Dating in India*, New Delhi, 1974, p. 71.

PLATES

1 : Bowl of cord-impressed ware (Koldihwa)
2 . Pot-sherd with rice husk (Mahagara)

MEGALITHIC REMAINS IN THE UPRER MAHĀNADĪ VALLEY OF ORISSA

Sadasiba Pradhan *

Western Orissa roughly comprising the districts of Sambalpur, Sundargarh, Bolangir, Kalahandi, Phulbani and Koraput along with the eastern and southern districts of Madhya Pradesh, formed the territorial unit of South Kosala in the ancient and early medieval times. It has a common physiography being predominantly populated by the tribals. It was the hilly and inaccessible Āṭavika territory mentioned in the Asokan Rock edicts. River Mahānadī flowing west-east through the plateau. has a definite role in shaping the history and culture of the region right from the early times. The archaeological potentiality of the region has been greatly emphasised by J.D. Beglar[1] and K. C. Tripathy.[2] Tripathy in his exploration report remarks, "In general, south-western Orissa presents a temporal succession of three archaeolithic stage, those of pebble, flake and flake-blade (microlith) respectively."

The present paper is the out-come of the field survey conducted by the author during March 1987. The exploration that was carried on between Baudh and Sonepur, over a distance of about 50 km along the right bank of the Mahānadī, has brought to light a new thing in Orissan archaeology, i. e. the Megalithic monuments at the sites of Budhikon, Kurumpadar, Yamatangi, Khairmal, Baunsuni and Dangajhol etc. all in the Phulbani District. Of these, the first two sites have been thoroughly surveyed and their survey report is presented.

---

* Dept. of History, Sambalpur University, Jyotivihar—768019

BUDHIKON

Date of Exploration—22 and 24 March, 1987.

The archaeological site of BUDHIKON is situated in the Manupali Panchayat Samiti of the Phulbani District. The site is approched by Jeepable road of 3 km towards south-west from the village Yamatangi which is at a distance of about 14 km from Manamunda on the State High way No. 14. The Guḍguḍa, a tributary of Mahānadi, is flowing on the northern side of the site.

Here the attraction of the site are the 138 granite boulders of almost identical size which have no natural bearing with the site (Pl. 3). The area of the site measures about 2 acres of land and as the greater part of the mound have been eroded (Pl. 4), the boulders appear to have been slightly displaced from their original setting. Otherwise they would have suggested a few boulder stone circles like that of a Megalithic burial site. The local tradition says that when two marriage parties met each other, which is considered highly inauspicious, they were cursed to turn stones. Presently the site is used as a burial ground of three to four neighbouring villages.

The surface exploration of the site yielded the following objects and antiquities :

1. Large quantities of iron slags.
2. A heap of iron ore.
3. Iron objects like nails, thin plates and blades.
4. Microlithic fluted cores and the chert group of nodules, which were possibly collected from the beds of the Mahānadī flowing nearby at a distance of about 4 km from the site.
5. Potsherds of varying shapes and textures :

(a) Wheel turned and well fired sherds of coarse brownish red ware with a thick fabric, nail incised marks at the lower portion of the neck, and beaded rim.

(b) Sherds of heavily weathered red ware of different shapes, prepared of well levigated clay and turned in wheel. Eroded surface indicates that they were possibly not well fired and with their weathered features they may be compared with the O. C. P. of the Gangetic doab.

(c) A few sherds of Black and Red ware, prepared of levigated clay, wheel turned, thin in section and well fired.

6. Charcoal lumps at a depth of 90 cm from the surface at the eroded cliff section.

There is no evidence of any structural activities. The settlement pattern was possibly non-structural being made of perishable materials.

KURUMPADAR

Date of visit—21 and 23 March, 1987.

The Archaeological mound of KURUMPADAR is located on the right bank of the river Mahānadī at a distance of 7 km. from Manamunda on the State High way No. 14 in the Baudh Sub-division of the Phulbani District. The mound extends over an area of about one km in length. A portion of the mound in the southern side has already been converted into paddy fields and the surface of the remaining mound is also under the regular cultivation by a local villager. The local people say that long back the site was inhabited by the KURUMIS, who were also considered by the local people as *Asuras* (demons) and the site is so named as "Kurumpadar" after the tribe.

The river section shows a disturbed stratigraphy because of the seasonal erosion and deposition of soil and silt by the river Mahānadī. The surface of the mound shows a few shrubs and trees (*Gohira*) and the installation of a modern Lift Irrigation point for the nearby paddy field. The mound has stone circles of both granite and sandstone boulders (Pls. 5 & 6) at five places of which the one at the south-west direction seems to be more intact in the arrangement of its stones suggesting the type of a megalithic burial. They may be compared with the unchambered cairn circles of south Indian Megaliths. Nearby is also a Menhir-like granite weather beaten pillar. The local people say that at the point of stone circles and stone pillars the Kurumis have buried their treasures in large pots. The association of large pots (urn) with stone circles is a clear Megalithic cultural trait.

The surface collection yielded the following objects and antiquities.

1. Manamunda bricks of 35 cm × 26 cm × 8 cm and 50 cm × 26 cm × 9 cm in large quantities. Brick clay was mixed with husk and well fired.

2. (a) Sherds of Grey Ware : Well fired, thin in section and with paintings in white, the painted designs include parallel lines, criss-cross lines, oblique lines, dots etc.

(b) Black and Red Ware of Grey Ware fabric : also identically painted in white.

(c) Red, Red Slipped and Black grooved Wares with a prominent knob at the base on the interior.

(d) The shapes included bowls, dishes, carinated handis, lids with prominent knobs for lifting.

(e) A ware with a coarse and thick fabric and out turned rims of buff red or black in colour. This may be taken either as a storage jar or an urn because it was found in the vicinity of a disturbed stone circle.

3. The other antiquities were biconical terracotta bead, bangles of shell, glass and terracotta, a small cylindrical copper rod, iron nails and slags in large quantities.

4. Bones of both men and animal have also been found along with the horn of antler and charcoal.

In view of the above findings, it is provisionally deducted that the site might be a Megalithic one which is yet to be established in Orissa in its cultural sequence. Because of the association of the Kurumis with the site and the stone circles it is becoming more logical to draw such a conclusion. Though the authorship of the Megalithic culture is an unsolved problem of Indian Archaeology, Walhouse remarks that Megalith was a culture of the Kurumbaras who migrated from Central Asia. Kurumi of our concern, here, might be taken as the corrupt pronunciation of Kurumbara. About the Kurumis E. T. Dalton[4] remarks that tradition, at all events, assign to them a very ancient place in the country, and many antiquities, now concealed in dense jungles or rising as monuments of civilization of bygone days amidst the huts of half savage races now occupying the sites, are ascribed to them and attest the advance they had made in civilization at a very early period. The remark of Dalton may prove prophetic if the site of Kurumpadar is excavated.

Besides these two sites, the Megalithic cultural traits are also noticed in the neighbouring areas. At Khairmal near Manamunda one can see a Menhir (partially dressed) being worshipped as Karlapat devī (Pl. 7). In the village Baunsuni, just on the right bank of the Mahānadī, one can see with all satisfaction an anthropomorphic Menhir (Pl. 8) being worshipped as *Grama devatī* (village guardian deity). Such practice of worshipping the Menhirs is also found at Dangajhol (Pl. 9) and Masinapada (Pl. 10).

Of course, we may not expect to get Megaliths of the South Indian type in Orissa if we take into account the statement of Fuer Haimendorf[5] who remarked that North-Eastern Megaliths, which still form a living tradition among the tribal people, are of South-East Asian origin and have nothing to do with the Southern Megaliths from which they differ also in function as

JCU 403

they are mainly memorials and not graves. Haimendorf further says that the Godabas erect their Menhirs and the Bondos build their dolmens close to a path. To the Godabas these are only additions of memorial stones while to the Bondos these are the seats of *Barsung* (the earth deity) and the addition of a new stone is a ritual act connected with the cult. He gives an account of the ritual connected with the erection of these monuments. The similarity of these with the Megaliths of Assam stresses that the Megalithic users of Orissa are a branch of those Megalithic practitioners who are so widely distributed in South East Asia. The migration occurred during the Neolithic times and they did not penetrate in any strength beyond the Godāvarī in the Deccan. Thus he speaks with authority about the non-relationship of the South Indian and the North-East Indian Megaliths.

It may be mentioned here that till recently Megalithism was practised by the tribals (Maria Gonds and Murias) of the Bastar District of Madhya Pradesh.[6] Even identical Megalithic monuments of cairn circles, Menhirs and dolmens are found from different sites in the districts of Raipur, Bastar, Raigarh and Durg.[7] And as discussed in the beginning, this region of Madhya Pradesh and the western part of Orissa share a common physiography and comprised the territorial unit of South Kosala. Even today we notice a lot of cultural affinities between the two regions.

In view of the aforesaid discussion, it will not be wrong to presuppose that this part of the Upper Mahānadī Valley will throw a good deal of light in reconstructing the Megalithic culture of Orissa if further explorations and excavations are conducted.

GS 5029

NOTES

1 A. Cunningham, *Archaeological Survey of India Report*, Vol. XIII, Reprint, Varanasi, 1970. pp, 118-141.

2 K. C. Tripathy, *Lithic Industries in India : A Study of South-Western Orissa*, Delhi, 1979.

3 *Ibid.* p. 172.

4 E. T. Dalton, *Tribal History of Eastern India*, New Delhi, 1978, p. 317 (original title was *Descriptive Ethnology of Bengal*, Calcutta, 1872).

5 Christoph Von Furer-Haimendorf, "Megalithic Rituals Among the Godabas and Bondos of Orissa", *Journal of the Royal Society of Bengal*, Letters, Vol. IX, 1943, pp. 149-178.

6 C. S. Gupta, "Megalithic Cultures of Dakshina Kosala" in R. K. Sharma (ed.), *Indian Archaeology, New Perspectives*, Delhi, 1982, pp. 264-67.

7 *Loc. cit.*

PLATES

3 : General view of boulders (Budhikon)
4 : Eroded section (Budhikon)
5 : Stone circle No. 1 (Kurumpadar)
6 : Stone circle No. 2 (Kurumpadar)
7 : Menhir worshipped as Karlapatdevī (Khairmal).
8 : Menhir worshipped as Grāmadevatī (Baunsuni).
9 : Menhir (Dungajhol)
10 : Menhir (Masinapada)

SEQUENCE OF ACHEULIAN CULTURE IN WEST BENGAL : GEOCHRONOLOGICAL AND MORPHOMETRIC STUDY

Manibrata Bhattacharya *

Field exploration, carried out at different spells during 1986-88 in south-central part of upland Bengal, was made with an intention to make critical observation on the nature of the Palaeolithic industries, found at different places of the said region, and typological relations and contexts of their occurrences. Attempts were also made to bring out the local sequence of the hand axe and other related tool-assemblages at their respective sites. Giving an emphasis on the upper reaches of the Gandheśvarī, some sites in the Purulia, Bankura and Midnapore Districts were selected. These places revealed Pleistocene sediments deposited on the Tertiary formations which were also implementiferous. A number of samples of Palaeolithic implements and sediments of implementiferous beds were collected. In addition, a number of sections were examined and recorded to identify the stratigraphy of the locality under study. The present paper deals with the results of this study.

The first section of the paper contains a brief but comprehensive description on geophysical setting. An analytical note on the stratigraphy and archaeological data on clusters of prehistoric industries of the upper Gandheśvarī valley is delineated.[1] The second section presents a quantitative analysis with some selected parametric tests which were made in order to ascertain the nature of relationships existing between the industries as well as the sites.

---

* Department of Anthropology, Calcutta University, Calcutta-700019

Two other sites, viz. Basudih in the Kumārī-Kaṅgśāvatī valley in the Purulia District and Bamundiha on the Tārāpheṇī in the Midnapore District, have been included to complete the picture.

Geomorphologically the upland Bengal belongs to a compact geophysical unit lying between Chotanagpur plateau and Lower Gaṅgā basin (86°-87° 30′ E ; 24°-22° 30′ N) which is basically a plateau-paneplane region (Fig.1).[2] This tract is bounded by the Purulia-Dhalbhum uplands on the west and the Rupnārāyaṇa plain on the east. The Pareśnāth hill and adjoining uplands followed by the Jamtara upland and succeeded by the Mayurākṣī plain lying in the east-west direction, might be cosidered as the boundary on the north and the south. The area is bounded by the eastern extension of the Dalma range and southern part of the Rupnārāyaṇa plain. The major sections and subsections of this undulating terrain are Jamtara upland, the upper and middle reaches of the Ajaya-Dāmodara valley, Susunia upland, upper reaches of the Rupnārāyaṇa valley, upper and middle reaches of the Kaṅgsāvātī valley, south-south east of the Barabhum upland and to some extent some limited part of the middle reaches of the Subarṇarekhā. The contour elevations of this terrain lie between 150m and 100m from MSL. In the cultural historical literature this land is known as Rarh, meaning rugged reddish upland terrain. This land is a part of different administrative territories, namely, Purulia, Bankura, Burdwan, Birbhum and Midnapore Districts of West Bengal bordering the State of Bihar.

The terrain is highly dissected by numerous runnels, channels, streamlets which ultimately lead to the major drainage system, such as, the Ajaya, Dāmodara, Rupnārāyaṇa, Kaṅgsāvatī and the Suvarṇarekhā. The ancient eroded landscape is dotted with a number of *monadnocks*, namely, Jaicandi, Susunia and such others. The high reliefs comprising the Pareśanāth, Pāñcet and Ajodhyā hills are conspicuous by their presence in the western boundary. The bed rock which has been exposed at a number of places is Archean schists. There are many places where sand stone beds are exposed. The gneiss and schists of Archean age form the eastern boundary of the Chotanagpur plateau.[3] The quartzite and schist occur mostly as intrusion and reef pendants in the granite gneiss. The schist of basic labrodite with minor quartzite of horn blend pegmitted occur here and there throughout the Archean tract and they often contain large crystals of flesh coloured patches of felspar and locally small flakes of mascovite. Patchy exposures of almost horizontal fossiliferous lower Gondowana Formation comprising coarse to medium grained yellowish and greyish white felspaltic and occasionally ferrugenous sandstone and red shales are also found.[4] Tertiary deposits, occurring as gravel conglomerate, and sandstones as beds horizontal with local dips varying from 10 to 40 are found scattered over certain areas. Beds of laterite occur usually at lower and occasionally at high contour elevation (120m-140m). Red and brown surface soil originated from deeply weathered basaltic rocks. The alluvium, which usually covers the river valley, is derived from decomposed rocks and deposited at the slopes.

Sites and Stratigraphy : With this background information on geomorphological features of the region, we may now enter the explored area in the upper Gandheśvarī (Figs. 1 and 2) which lies between 86°59′-87° E and 23°25′-23°26′ N, an area of 4 sq. km. where systematic field works were carried out at different spells during 1986-88. This area is situated at a distance of 15 km north west of Bankura, the district headquarters. The braided channels highly dissecting the rolling landscape constitute the head waters of the upper Gandheśvarī and *monadnock*, Susunia (440m), around which the radiated runnels are most important features. A number of sections are exposed in the cutting of the runnels and streams at different places in Ramnathpur, Goaldih and Netakamta villages. The contour elevations of the study area varies between 140m and 120m. The natural slope is from north-northwest to south-southeast direction. The gradient and nature of direction of the explored terrain can be easily ascertained from Figure 1. More than a dozen of sections have been examined and recorded (Fig 3) at different localities. A large number of prehistoric tools have been found both in situ and on the eroded surface of the explored area. The sites are mainly situated in the revenue districts of Ramnathpur, Netakamta, Happana and Goaldih. Besides these sections of runnels and streams, a number of mostly dried up tanks, ditches and local earth quarries (from where people collect sticky coloured clay to build, repair and decorate their houses), have been observed. It is important to mention that the local cultivators, in their endeavour to convert unfertile and pebbly bed land surface to plots of cultivable fields, did reclamation by removing the sheet of uppermost surface of silty *kankar* nodule with chunks of stone pieces. Such reclamation of land has resulted in the exposure of the underneath layer. These reclaimed plots and patches of exposed places have yielded a number of prehistoric tools at Ramnathpur. The data thus collected have added valuable information in understanding the sedimentation process and to establish the local stratigraphy and the contexts of occurrence of the prehistoric tools.

The Pleistocene deposits in the study area are mostly fluvial and aeolian. The deposits are found mostly on the Lower Gondowana formations, sandstone bed, and, occasionally, on Archean Gneiss-schists. A brief discussion on the Pleistocene stratigraphy of the study area is given below. The Pleistocene sedimentary beds, as identified from observation at different sections, reveal geomorphological sequence of depositional and erosional events.

It is important to mention that no earlier sediments of Lower Pleistocene formation have been observed during the fieldwork at this place. It appears that the deposit had been carried out by high energy bed load fluvial forces. In some places Lower Paleaolithic tools have been found at the upper most level of this deposit. At some spots near the villages of Goaldih and Ramnathpur a lateritic horizon impregnated with boulders, gravels and cobbles have been noticed. It seems that this gravel bed horizon belongs to Middle Pleistocene. Similar view has also been expressed by Shastri in connection with the study of Pleistocene vertebrates from Susunia.[5] The exact relation between the lateritic and that of the cemented gravel in grey yellowish sandy clayey matrix has not been established. Above the lateritic and cemented gravel bed, yellow or yellowish brown silty loam with *kankar* can be traced. This layer is thin, exposed in some places and extended over a few kilometers. At the exposed surface this bed is highly eroded and dissected. The cemented gravel bed is overlain by a thick deposit of yellow silty clayey soil containing a number of upper Acheulian hand axes including cleavers. They usually occur at the lower level. At a very recently reclaimed plot, which is under preparation for cultivable land from where the villagers removed a thick sheet of silty *kankar* (barren upper most surface), the yellowish silty loamy clayey sticky bed has been exposed. Here a number of upper Acheulian tools (about a dozen) occur in cluster of about 10m radius. This yellow silty loamy soil of the reclaimed plot is calcareous and at times mottled. In some places the colour also changes and becomes whitish or whitish grey due to high percentage of calcium carbonate and the mottling is due to the presence of soft amorophous ferrugenous segragates. This deposit texturally varies from sandy loam to clayey. In some places this silty loamy clayey sticky and calcareous soil also contains *kankar* and nodule at the upper level. It seems that this bed may be of early Late Pleistocene. A loosely packed gravel bed with nodule, *kankar* and reddish yellow silty clayey bed of thin deposit has been found in a few places between Ramnathpur and the Susunia foot hills to the north of Susunia village. Upon this loosely packed gravel is a bed of loamy clay with *kankar* and faded yellowish brown or reddish brown soil. At 1.5 km northwest of Ramnathpur this reddish brown or yellowish brown soil, containing comparatively higher percentage of *kankar* as well as nodule and chunk of stone, yielded a number of Middle Palaeolithic tools. It is important to mention that some mamalian fossils of *bos*, *equus* and *elephas* of Late Pleistocene have been found from the said deposit. At Dhankora, a few kilometers away from the explored area, the Palaeocdon namadicus fossil has been found. The presence of *kankar* and nodule indicates that the loamy deposits were subaerialy exposed and the presence of fossil mammal and fine grained Middle Palaeolithic tools, found in association with a typical awl, beautifully made on a long blade like flake, suggest that the reddish brown aeolian loam deposit may be of Late Pleistocene age. The whitish yellow or light brownish red sandy silty or silt loam with less *kankar* belongs to sub-Recent period.

The Quarternary stratigraphy and associated prehistoric industries can be correlated as given below :

TABLE 1.1

Geo-chronology and Prehistoric Industries of the Upper Gandheśvarī, Bankura

Early Holocene or Sub Recent	Reddish silty and sandy kankar soil	Dominated by aeolian deposit	Semi arid and dry	? Mesolithic (microliths, flakes & blades)
Terminal Late Pleistocene	Reddish yellow and yellowish with kankar and small gravel		Semi arid and humid (cold, dry and warm wet)	? Upper Palaeolithic Middle Palaeothic
Late Pleisticene	Loose gravel with clay	Predominantly fluvial deposit	Humid (moist, dry)	Middle Palaeolithic and Acheulian (?)
Late Middle Pleistocene	Yellowish loamy clayey soil	Dominated by aeolian deposit	Semi arid and dry	Acheulian industries
Middle Pleistocene	Cemented boulder, gravel with sand clay	Dominated by high energy fluvial flow	Humid and wet	Lower Palaeolithic tools (?)
Tertiary	Sandstone	—	—	—

Archaeological finds (Pls. 11-24) : A number of palaeolithic tools of different types have been encountered during field work. Only a sample of the tools were collected by stratified random sampling design from the places mentioned above. By adopting multi-stage sampling procedure only 176 sample tools were selected for study. These tools include both the finished and unfinished ones. Some tools were found in stratified *in situ* contexts and others were on the surface. Those found on the surface include both fresh and rolled varieties. As mentioned earlier, the surface of the terrain is very eroded and highly dissected. It appears that fresh varieties are exposed due to erosion but in the case of the rolled ones it seems that they were carried down by natural agency. The rolled tools occur in secondary deposit context. The raw materials used are either quartz or quartzitic sandstone. The grains of the rocks vary between coarse and medium. Those made on chert is fine grained. Some tools are highly patinated and other are relatively fresh. In the present study only finished tools, which occur in the sample, are considered. It is found that about 70% tools are finished. The remaining collection, about 30%, is unfinished, which includes half finished tools, irregular pieces of stones where a few flakes can be traced and a number of flakes with or without secondary work but not conforming to any tool types. On the basis of typological study, the selected finished tools can be broadly divided into two distinct lithic traditions, viz. the Lower Palaeolithic and the Middle Palaeolothic, each being found in distinct horizon. The Lower Palaeolithic tools have been collected from the uppermost level of the cemented gravel bed or in a few cases on lateritic gravel bed as well as largely from yellow silty loam bed. The Middle Palaeolithic tools occur at the upper level of the yellow silty loam in limited cases and largely from the loose gravel and yellowish brown silty *kankar* and nodule beds.

TABLE 1.2

Frequency Distribution of Palaeolithic Tool Type of Upper Gandheśvarī valley :

Cultures	Hand axe	Cleaver	Scraper	Points	Others	Total
Lower	42	9	22	—	3	76
Palaeolithic	(34.7)	(7.4)	(18.2)		(3.3)	(63.6)
Middle	—	—	28	14	3	45
Palaeolithic	—	—	(21.6)	(11.5)	(3.3)	(36.4)
	42	9	50	14	6	121
	(34.7)	(7.4)	(39.8)	(11.5)	(6.6)	(100)

The main tool types of the lower Palaeolithic comprise hand axe, cleaver, scraper, pick and others. They are of various descriptions and their frequency distribution is given in Table 1.2. It appears that the highest incidence occurs for hand axe (35% of the total collection). Though cleaver is usually included within hand axe complex, its frequency, which figures 7% of the total collection, has been shown separately. Such an incidence (7% of the total collection) of cleaver in the study area seems very significant. So, the percentage of hand axe and cleaver together shows the highest figure, i. e. 42%. Next comes scrapers with 18%. This type, which includes pick and parallel sided elongated flake, i.e. knife, and has been classified as of other category, constitutes 3%. Where the Lower Palaeolithic artefacts constitute 66%, the remaining 34% are represented by the Middle Palaeolithic ones. Typologically the Middle Palaeolithic tools show the following break up : scraper 22%, point and awl 11% and others 3%. They are usually made on medium to fine grained rocks, viz. quartz and chert. So far as the dimension of the tools are concerned they are bigger and larger in case of the Lower Palaeolithic tools and comparatively smaller and shorter in case of the Middle Palaeolithic ones (Tables 1.3 & 1.4). The mean values for length, breadth and thickness of the Lower Palaeolithic industry vary between 16 cm and 10 cm, 9 cm and 7cm and 5cm and 4cm respectively; the corresponding values for the Middle Palaeolithic ones are 8 cm-7 cm for length, 6 cm.-5 cm for breadth and little more than 2 cm for thickness. In this situation a brief description of different tool types seems plausible.

TABLE 1.3 *

Maximum, Minimum and Mean Values of Length, Breadth and Thickness of Lower Palaeolithic Tools

	Length			Breadth			Thickness		
Tools	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
Handaxe	17.0	9.0	10.2	10.4	4.1	7.2	7.1	2.3	4.2
Cleaver	22.5	12.0	16.4	12.5	8.0	9.4	6.0	4.0	4.5
Scraper	16.4	9.5	13.2	14.0	8.0	9.0	7.4	4.0	4.7

* Based on collection from Ramnathpur, Netakamta and Goaldiha.

TABLE 1.4

Metric Values of Middle Palaeolithic Tools of Upper Gandheśvarī :

	Length			Breadth			Thickness		
Tools	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
Scraper	10.4	4.0	8.3	8.0	2.5	6.0	4.0	2.0	2.6
Awl & Point	10.9	5.0	7.0	6.7	2.6	4.8	2.6	1.4	2.1

Hand Axe : In the Frequency Distribution Table 1.2 of prehistoric tools, this type having scoring 35% shows the highest incidence. Both core and flake were used to make different varieties of hand axes. Hand axes show variation both in shape and in size. Table 1.3 reveals the range of variation and distribution of mean values of dimensions. The maximum and minimum lengths are 17cm and 9 cm with mean value 10.2 cm. For breadth the corresponding figures are 10.4 cm 4.1 cm and 7.2 cm and for thickness 2.3 cm and 4.2 cm. Various shapes are almond, long oval, oval, cordate, lanceolate and triangular. Most of the hand axes are fresh but patinated and bear the marks of use. In some cases rolled and highly patinated varieties are also found. The flakings were done very skilfully and retouches are found at the edges. Most of the tools are uniformly flaked from all over the surface. The butt end in some cases are thick but flaked. Cross-section varies from lenticular to rectangular. Those made on flakes have triangular or plano-convex cross-sections. Initial flake scars retain at the ventral surface but the edges have retouches.

Cleaver : It constitutes 5% of the total collection. Both big and long, and small and short varieties are found. The maximum and minimum length, breadth and thickness are 22.5 cm and 12cm, 5.6cm and 8.0cm and 6.4cm and 3.0cm respectively; the mean values for length, breadth and thickness are 16.4 cm, 9.4 cm, and 4.5 cm. Besides 'V' and 'U' shaped cleavers, there are other varieties. These other varieties include two tools identical in size and shape. These are long and rectangular in outline with transverse oblique cutting edge. Their surfaces, including edges, are meticulously flaked. Very fine flakings are the most important features of these two cleavers. Cross sections are mostly planoconvex, rectilinear and quadrangular.

Scraper : To the Acheulian industry belong 18 scrapers of broad and moderate size; 22 belong to Middle Palaeolithic. Tables 1.3 & 1.4 give metric data for both the groups. Those belonging to the Acheulian industry are comparatively cruder, broader and thicker. The scrapers are of various descriptions, namely end, side, convex and round. Mousterian technique is the marked feature of Middle Paleolithic scrapers. The cross sections are either planoconvex or biconvex.

Points and Awls : They constitute little more than 11% of the total collection of which 9% are points and 2% are awls. The points are made of both broad and leaf shaped flakes. Mousterian points are conspicuous by their presence. In some cases, some points are elongated and others triangular. Awls are long. One awl shows typical 'D' shaped cross section at the tip. It is long and beautifully made on a blade flake having planoconvex or roughly triangular cross section at the middle.

Others : Of the tools of both the Acheulian and the Middle Palaeolithic industries, 7% are lumped together under this catagory. Pick is one of the important types. It is made on a moderately big pebble; one is meticulously chipped to produce a protuberence. Parallel sided knife on a long oval thin flake is another important type. It shows mastery of technique in its prepartion. Secondary small flakes are found all over the cutting edge. Cross section is biconvex. Other tools are either big and/or small sized flakes used for cutting purposes.

The Lower Palaeolithic tools typologically belong to the Acheulian industry. These are characterised by extreme symmetry of outline, thickness and small size and, at least in some cases, by very shallow and fine flake sears and even surfaces. As most of the tools are made on hard quartz, one should take into account the degree of mastery of skill in manufacturing such beautiful, symmetric and evenly shaped tools. Hence, the industry with different types of hand axes, cleavers and scrapers including elongated blade-like flake, represents an advanced stage of lithic industry and can be placed in the upper Acheulian stage. In fact, this Acheulian industry is comparable with the same in other parts of the world so far as the typo-technical characteristics of the tools are concerned.[6] The craftsmanship, employed in making such industry on the quartz and sandstone, can be compared with the highest skill of tool making technology of the Acheulian man in the global context. It is evident from stratigraphical context of occurrence that they belong to late Middle Pleistocene. Tools of the Middle Palaeolithic industry mainly comprise Levallois-Mousterian flakes, scrapers of different description, points, awls, denticulates and blade-like flakes. There was a shift in the choice of raw material. As found elsewhere in India, finer grained rocks substituted for coarse to medium grained ones. The chert was often used and mention must be made of typical Mousterian points, convex, round and end-scraper, awl made on elongated blade-like flake with 'D'—shaped cross section at the top which are conspicuous by their presence. They usually occur in the reddish or yellow brown silt with *kankar* gravel and nodule bed which belongs to late Pleistocene.

II

In this section an effort is made to compare, at first, the morphometric data of five artefact assemblages collected from Ramnathpur (*abv.* RP), Goaldih (*abv.* GD), Bonkati (*abv.* BO), Happana (*abv.* HA) and Netakamta (*abv.* NK) which are situated close to each other in the upper Gandheśvarī valley. (Fig. 4). Then a comparison of selected artefact assemblages of Ramnathpur, representing the upper Gandheśvarī, is made with those of Basudih (*abv.* BS), in the middle reaches of the

Kaṅgsāvatī, and Bamundiha (*abv.* BA) on the Tārāpheṇī. The aim of such comparison is to ascertain their respective position in relation to each other. This comparative study helps suggest local cultural sequence of hand axe culture in West Bengal. The sample size of hand axes for five clusters of the Gandheśvarī are as follows : 10 for RP, 9 for GD, 54 for BO, 7 for HA and 14 for NK. To ascertain the local sequence of hand axe culture in W. Bengal, 18 hand axes from Basudih, 13 from Bamundiha and 10 from Ramnathpur are selected. Besides, 9 cleavers from Bonkati and 4 from Happana, 2 from Basudih and 4 from Bamundiha are also considered. With regard to scrapers, 8 each from Ramnathpur and Bonkati, 5 from Basudih, 13 from Bamundiha and 7 from Netakamta are considered. The small number of cleavers and scrapers are included as they are constituents of hand axe culture in W. Bengal too. It seems important to mention that in this study of parametric tests on morphometric attributes of artefact assemblages, due considerations are given to geo-stratigraphical context of occurrences of the tool types as well as geographical location of the sites. So far as metric data are concerned, maximum values for length, breadth and thickness of individual tools were measured. Then means ($\overline{X}$), standard deviations (SD) and coefficient of variations (CV) of each tool type are calculated separately for each cluster and/or site. The types, clusters, sites, respective sample size along with $\overline{X}$ and SD of the samples can be found in the Table 2.1. Distribution of sizes, length, breadth and thickness of the tool types are also shown in Table 2.1. Intersite tool types are compared using variance ratio test, F test, and the value of F are given in Tables 2.2-2.7. On the basis of measurements and calculations scatter diagrams are drawn on the basis of which regression lines were fitted in Figs. 9-11. The hand axes and scrapers from three sites, RP, BS and BA, are compared and put to relevent parametric tests. Frequency distribution of means, standard deviations and coefficient of variations of the selected tool types are shown in Tables 2.1-2.8. The coefficient of correlations of paired variables (r) are provided in Table 2.9. The result of the t-test on size of different tool types is given in Tables 2.10 and 2.11 and regression equation in Tables 2.12 and 2.13 gives comparative analysis of hand axes of five different sites of which two are from Chikri on-Pravara (Maharashtra) and Paleru (southern Andhra Pradesh) in Peninsular India.

TABLE 2·1

Distribution of means, standard deviations and coefficient of variations of size and shape of selected tools from different sites, Gandheśvarī valley :

		Hand axes					Cleaver		Scraper		
		RP	GD	BO	HA	NK	BO	HA	RP	BO	NK
		n—10	n—9	n—54	n—7	n—14	n—9	n—4	n—8	n—9	n—7
	$\bar{X}$	9.98	9.3	12.7	12.9	11.6	11.3	9.8	7.5	7.2	11.7
Length	SD	2.3	2.2	2.9	2 7	2.7	3 15	2 80	2 85	2.16	1.70
(L)	CV	23	24	23	21	23	28	29	38	30	15
	$\bar{X}$	5 98	7.6	8 2	7.37	7 14	7 9	9.8	5.7	8.7	7.7
Breadth	SD	1.57	1.7	1.8	.99	1.37	3.25	3 2	2.24	2 3	1 66
(B)	CV	26	21	22	13	19	41	33	39	26	22
	$\bar{X}$	3 29	3 32	5 98	3.8	4 35	4 47	4.17	2.06	3.9	4 5
Thickness	SD	.83	1 01	1.8	.87	1.43	1.7	.20	0.44	1.7	1.94
(T)	CV	25	33	35	14	33	38	48	21	44	43
	$\bar{X}$	.59	.93	.68	.57	.65					
Breadth	SD	.08	.36	.31	.08	.13					
Length (BL)	CV	14	39	46	14	20					
	$\bar{X}$	.57	.43	.65	.50	.57					
Thickness	SD	.18	11	.33	.07	.13					
Breadth (TB)	CV	32	25	51	14	23					
	$\bar{X}$	.33	.35	.40	.28	.36					
Thickness	SD	.08	.09	.12	.07	.09					
Length (TL)	CV	24	25	30	25	25					

It appears from the Table 2.1 and Fig. 4 that RP and GD show small values (9.98 & 9.3 cm) for mean length, but they vary from three other clusters—BO, HA and NK. On the other hand, CV distribution shows a different picture. HA shows a lower value (20.8) and GD a bit higher (23.6). The variance ratios, F-values, do not show any significant difference. In other words, they are homogeneous. It is also true to some extent for breadth (Tables 2.2 & 2.3). However, in respect of thickness there are significant differences (Table 2.4). When shape is considered, it is found that GD hand axes are broader and HA narrower being 0.93 and 0.57 respectively. The refinement index (T/L & T/B) reveals that BO and NK are less refined than those of others. In this respect F-values also show significant difference (Table 2.7).

TABLE 2.2

Distribution of variance ratios, F-value, with degree of freedom for length of hand axes from different selected sites, Gandheśvarī valley :

	RP (n=10)	GD (n=9)	BO (n=54)	HA (n=7)	NK (n=14)
RP (n=10)	1.64	1.64	2.4	1.7	1.3
df.		9.8	53.9	6.9	9.13
GD (n=9)			1.3	1.01	1.3
df.			53.8	8.6	8.13
BO (n=54)				1.3	1.0
df.				53.6	53.13
HA (n=7)					1.3
df.					13.6
NK (n=14)					

TABLE 2.3

Distribution of variance ratios, F-values, with degree of freedom for breadth of hand axes from selected sites, Gandheśvarī valley :

	RP	GD	BO	HA	NK
	n=10	n=9	n=54	n=7	n=14
RP (n=10)		1.2	1.2	2.36	.44
		9.8	53.9	6.9	9.13
GD (n=9)			1.0	2.85	1.44
			53.8	6.9	9.13
BO (n=54)				2.89	1.46
				53.6	53.13
HA (n=7)					1.38
					13.6

The size of cleavers of BO and HA (Fig. 5) does not vary significantly as found from the CV as well as F values (Table 2.1). For the latter case, estimate shows that the value for F is 1.06 with df. 8 and 3 for length (Table 2.5). Similar is the results for breadth and thickness. Hence, it can be said that two clusters of cleavers of the Gandheśvarī valley do not show any significant difference even in 1 per cent indicating that they are, in fact, homogeneous.

TABLE 2.4

Distribution of variance ratios, F-values, with degree of freedom for thickness of hand axes from selected sites, Gandheśvarī valley :

	RP	GD	BO	HA	NK
	n=10	n=9	n=54	n=7	n=14
RP (n=10)		5.8	2.32	8.7	3.5
		9.8	53.9	9.6	9.13
GD (n=9)			2.5	1.5	1.7
			9.53	9.6	9.13
BO (n=54)				3.75	1.5
				59.6	53.13
HA (n=7)					2.5
					6.13
NK (n=14)					

A comparative analysis of scrapers from different sites reveals that NK is apparently different so far as CV of length is concerned (Fig. 6). Similarly, breadth and thickness values of CV for RP show difference with that of BO and HA. But in variance ratio test, F test, three sites do not show any significant difference (Table 2.6). The value for length is 1.77 with df. 7 and 8 for RP and BO; it is 2.73 with df. 7 and 8 for RP and NK and 1.55 with df. 5 and 8 for NK and BO. Similar is the pattern for F value for breadth (Table 2.5) which indicates that there is no significant difference between the sites of the Gandheśvarī valley. But in case of thickness significant differences were found between RP and BO and also between RP and NK. However, NK and HA do not show any such difference.

TABLE 2.5

Distribution of variance ratios with degree of freedom for length, breadth and thickness of cleavers from Bonkati and Happana, Gandheśvarī valley :

	Length	Breadth	Thickness	
F-values	1.06	1.1	1.02	BO n=9
df.	8.3	3.8	3.8	HA n=4

TABLE 2.6

Distribution of variance ratios, F-values, with degree of freedom for scrapers of different sites in the Gandheśvarī valley :

	Leangth			Breadth			Thickness		
	RP n=8	BO n=9	NA n=7	RP n=8	BO n=9	NA n=7	RP n=8	BO n=9	NK n=7
RP (n=8)		1.77	2.73		1.04	1.06		15.46	20
df.		7.8	6.8		9.7	8.6		9.7	8.6
BO (n=9)			1.56			1.7			1.3
df.			8.6			8.6			6.8

TABLE 2.7

Distribution of variance ratios, F-values, with degree of freedom for breadth/length of hand axes from different sites, Gandheśvarī valley :

	RP (n=10)	GD (n=9)	BO (n=54)	HA (n=7)	NK (n=14)
RP (n=10)		21.0	140.0	1.0	26.1
df.		9.8	53.9	9.6	9.13
GD (n=9)			.007	21.0	1.25
df.			53.6	8.6	8.13
BO (n=54)				140.0	26.1
df.				53.6	53.13
HA (n=7)					26.1
df.					13.6
NK (n=14)					

TABLE 2.8

Distribution of means, standard deviations and coefficient of variations of hand axes from selected sites of West Bengal :

		RP	BS	BA
		n=10	n=8	n=13
	$\bar{X}$	9.93	13.8	12.5
Length (L)	SD	2.3	2.3	2.3
	CV	23	18	18
	$\bar{X}$	5.98	8.4	8.71
Breadth	SD	1.57	1.47	1.5
(B)	CV	26	17	17
	$\bar{X}$	3.29	4.6	4.9
Thickness	SD	.83	1.01	1.0
(T)	CV	25	21	21
Length/	$\bar{X}$	.59	.61	.71
Breadth	SD	.08	.07	.07
(L/B)	CV	14	10	10
Thickness/	$\bar{X}$	.57	.38	.39
Length	SD	.18	.05	.1
(T/L)	CV	32	14	18
Thickness/	$\bar{X}$	.33	.55	.56
Breadth	SD	.08	.10	.05
(T/B)	CV	24.1	18.2	13.2

TABLE 2·9

Coefficient of correlation of paired variables (r) on selected tools from selected sites, W. Bengal :

		Length-Breadth	SE	Length-Thickness	SE	Breadth-Thickness	SE
Hand axe	RP	.69	.05	.50	.025	.36	.013
	BO	.09	.018	—.06	.0001	—.38	.003
	BS	.59	.038	.32	.006	.70	.029
	BA	.67	.043	.70	.037	.53	.022
	RP	.75	.0703	—.15	.028	—.15	.028
Scraper	BS	—.03	.0018	—.33	.0218	.57	.065
	BA	.47	.017	.27	.0013	.26	.052
Cleaver	Bo	.90	.09	.66	.0484	.45	.0225

TABLE 2·10

t—Test analysis of hand axe, cleaver and scraper

Hand axe	Length-Breadth	Length-Thickness	Breadth-Thickness
RP (n=10 ; df. 8)	2.76 (.02 level significance)	1.6	1.09
Bo (n=54 ; df 52)	.65	.46	3.16 (high significance)
BS	2.95	1.33	3.8 (high significance)
BA (n=13 ; df. 11)	3.04 (.01 level significance)	3.34 (01 level significance)	2.12 (.05 level significance)
Scraper			
RP (n=8 ; df. 6)	2.7 (.05 level significance)	—.3	—.3
BS (n=5 ; df. 3)	——	—.6	1.2
BA (n=13 ; df. 11)	1.8 (.10 level significance)	.93	.83
Cleaver			
BO (n=13; df. 11)	5.6 (high significance)	2.35 (.05 level significance)	1.36

In Table 2.10 2.11 the t-test shows a significant correlation (.02 level) between length and breadth of the hand axes of Ramnathpur whereas in Table 2.9 r-values, coefficient of correlation, show a positive relation between length and breadth, length and thickness and breadth and thickness. However, the latter

TABLE 2.11

t-test Analysis of hand axes, scrapers in relation to different sites :

Sl. No.	Groups	Length	Breadth	Thickness	B/L	T/B	T/L
A :	HAND AXES :						
1.	Basudih and Ramnathpur	2.82 (.01 level)	4.06 (Highly significant)	2.93 (.01)	1.28	.6	.67
2.	Basudih and Bamundiha	.41	.70	.51	.16	.33	1.5
3.	Bamundiha and Ramnathpur	2.65 (.01 level)	1.38	4.13 (.01 level	5	.4	1.5
B. :	SCRAPER :						
1.	Basudih and Ramnathpur	2.74 (.02)	1.59				6.84 (Highly significant)
2.	Basudih and Bamandiha	.04	2.6 (.02 (Significant)				.02
3.	Bamundiha and Ramnathpur	2.20 (Significant)	3.74 (Highly significant)				7.08 (Highly significant)

two pairs-length-thickness and breadth-thickness—do not indicate significant correlation with the t-test. The Table 2.11 and Fig. 7 show that Basudih hand axe had a significant correlation between length and breadth (.01 level) and breadth and thickness (highly significant). But the t-test does not show any significant correlation (Table 2.10). Similar observation can be made in respect of length and breadth and length and thickness of Bamundiha examples (Table 2.8 and 2.10); but the correlation between breadth and thickness is less significant (.05 level). However, correlation between breadth and thickness is highly significant in case of Bonkati hand axes (see also Figs. 10 & 11 for scraper and cleaver). Fig. 12 shows the normal distribution pattern of the hand axes of different samples and their respective position. It is worth mentioning that the correlation coefficient shows positive relation between these paired variables for all three samples ftom Ramnathpur, Basudih and Bamundiha; but in case of Bonkati there are negative relations between length and thickness as well as breadth and thickness.

TABLE 2.12

Regression Equations

A : HAND AXES :

a) Basudih

1 Length = 3.88 + 1.07 B
2 Breadth = 4.26 + .32 L
3 Breadth = 4.95 + .74 T
4 Thickness = .86 + .66 B
5 Length = 10.10 + .62 L
6 Thickness = 2.53 + .16 L

b) Ramnathpur

1 Length = 3.24 + 1.01 B
2 Breadth = 1.28 + .47 L
3 Breadth = 3.78 + .68 T
4 Thickness = 2.16 + .19 B.
5 Length = 5.43 + 1.38 T
6 Thickness = 1.49 + .18 L.

c) Bamundiha

1 Length = 3.48 + 1.03 B
2 Breadth = 3.29 + .43 L
3 Breadth = 4.97 + .77 T
4 Thickness = 1.69 + .36 B
5 Length = 4.85 + 1.58 T
6 Thickness = 1.06 + .31 L

B : SCRAPERS :

(a) Basudih

1 Length = 10.33—.05 B
2 Breadth = 6.95—.01 L
3 Breadth = 3.88 + .75 T
4 Thickness = .93 + .42 B
5 Length—12.80—.73 T
6 Thickness = 5.32—14 L

(b) Ramnathpur

1 Length = 2.11 + .95 B
2 Breadth = 1.25 + .58 L
3 Breadth = 7.25 + .76 T
4 Thickness = 2.17 + .02 B
5 Length = 9.53—.97 T
6 Thickness = 2.23—.02 L

(c) Bamundiha

1 Length = .05 + 1.25 E
2 Breadth = 6.45 + .17 L
3 Breadth = 6.92 + .33 T
4 Thickness = 2.17 + .20 B
5 Length = 6.4 + .92 T
6 Thickness = 3.05 + .07 L

C : CLEAVER :

(a) Bonkati

1 Length = 4.39 + .87 B
2 Breadth = 2.57 + .92 L
3 Breadth = 4.06 + .86 T
4 Thickness = 2.62 + .23 B
5 Length = 5.82 + 1.2 T
6 Thickness = .46 + .35 L

TABLE 2.13

Comparative analysis of hand axes of five selected sites, Gandheśvarī valley (RP), W. Bengal (BS & BA) and Peninsular India (CH & PA) :

		RP	BS	BA	CH	PA
		n = 10	n = 13	n =	n =	n =
	$\bar{X}$	9·98	13.8	12.5	13.8	9.8
Length	SD	2.3	2.3	2.3	3.8	1.7
(L)	CV	23	18	18	27	18
	$\bar{X}$	5.28	8.4	8.71	7.63	6.89
Breadth	SD	1.57	1.47	1.5	.30	1.06
(B)	CV	26	17	17	4	15
	$\bar{X}$	3.29	4.6	4.9	4.81	3.06
Thickness	SD	.83	1.01	1.0	1.3	0.7
(T)	CV	25	21	21	25	21
Breadth-Length		.59	.69	.71	.55	.69
Thickness-Length		.57	.33	.39	.33	.31
Thickness-Breadth		.33	.55	.56	.63	.44

In respect of shape (Table 2.13), it is evident that RP hand axes are broader (.59) than those of Bamundiha (.7) and Basudih (.7). When they are compared with the cultures of Peninsular India, Chikri of Maharashtra and Paleru of southern Andhra Pradesh, it is found (Tables 2.13 & 2.14) that RP is closer to Chikri (.55); but Bamundiha and Basudih, both of which have the same F value (.7), are very close to Paleru (.7). But with regard to refinement value (index of thickness over breadth), Ramnathpur (.33) shows closeness to Paleru (.44) and significant differences from all the sites compared (value for RP .33 against .55 of Basudih, .56 for Bamundiha and .63 for Chikri). Hence, if can be said that the Gandheśvarī hand axes show significant differences in comparison to other industries (see Fig. 12). This result becomes much more relevant when a test of significance on paired variables of coefficient of corretations is made (Table 2.9).

TABLE 2.14

Distribution of metric values on shapes end refinements of hand axes from five selected sites of West Bangal and Peninsular India :

	RP	BS	BM	CH	PA
B/L	.59	.69	.71	.55	.69
T/L	.57	.33	.39	.35	.31
T/B	.33	.55	.56	.63	.44

Though the sample size of cleaver is small, there is significant relation at .05 level between length and breadth. The scrapers of Ramnathpur show some significant relation between length and breadth; but in respect of other variables, length and thickness and breadth and thickness, the relations are negatively associated. The scrapers of Basudih and Bamundiha do not show any significant relations as evident from t-test analysis. The t-test analysis of correlation coefficient shows that out of three pairs two are negatively associated in case of Basudih and the remaining one is only positively related (Tables 2.9 & 2.10). In case of Bamundiha all the paired variables are positively related. It is also evident from the Table 2.13 and 2.14 that so far as the size and shape, and length and breadth are concerned, Basudih and Ramnathpur are closely related. In respect of refinement of the hand axes they are different. The picture is somewhat different when Bamundiha is compared with Ramnatpur. The ratios of thickness-length and breadth-length of the two sites are close to each other, but when other variables are considered they show marked difference.

In this context it is worth mentioning that Basudih and Bamundiha show significant differences in respect of all the variables which can be accepted to be due to the fact they represent two different phases of hand axe culture of this region. This observation becomes more relevant when scrapers of Basudih and Ramnathpur assemblages show, on comparison, that the values are closely related. In short, Ramnathpur shows closer affinities with both the sites, Basudih and Bamundiha, which in turn differ from each other. The Bamundiha artefact assemblage, containing pebble choppers, hand axes and scrapers of large size and retaining a less advanced manufacturing technique in comparison to Basudih and Ramnathpur, holds a lower position in the local sequence of hand axe culture in this region.

The position of Ramnathpur assemblage can be ascertained from different parametric tests used here on size, shape and refinement. From the results of the tests it can be inferred that Ramnathpur represents the most advanced one in the local sequence. The position of the assemblages of Basudih is in between Bamundiha and Ramnathpur but with a tendency of closeness towards Ramnathpur. Hence, in the local sequence of Hand Axe Culture of West Bengal, the industry of Bamundiha represents an earlier phase which is succeeded by the indurtry of Basudih which in turn is followed by the Ramnathpur industry, Both in Ramnathpur and Basudih, elements of Middle Palaeolithic tools are found ; but in Basudih the frequency is less. A Micoquin hand axe, belonging to Mousteriad phase, occurs at Basudih.

The collected data from different places may not be sufficiently large but the findings made on the basis of their typo-technique and morphometric analyses are meaningful. However, such findings on the local sequence of Hand Axe Culture of West Bengal are tentative. To trace the genesis and process of development of Hand Axe Culture of Bengal, further exploration and field study are imperative.

NOTES

1. For geomorphology, site and stratigraphy of Bamundiha, Tarapheni valley, see M. Bhattacharya, 'Stages of Prehistoric Culture In Rarh Bengal, in *Archeaology and Hisory*, eds. B. M. Pandey and B. D. Chattopadhyaya. Delhi, 1987, p. 42-52.

2. S. P. Chatterjee. Calcutta Plate, National Atlas, Calcutta, 1964 ; Spate, *India and Pakistan—A Regional Geography*. London, 1957, R. L. Singh, *India—A Regional Geography*, Varanasi, 1987,

3. D. N. Wadia, *Geology of India*, London, 1953.

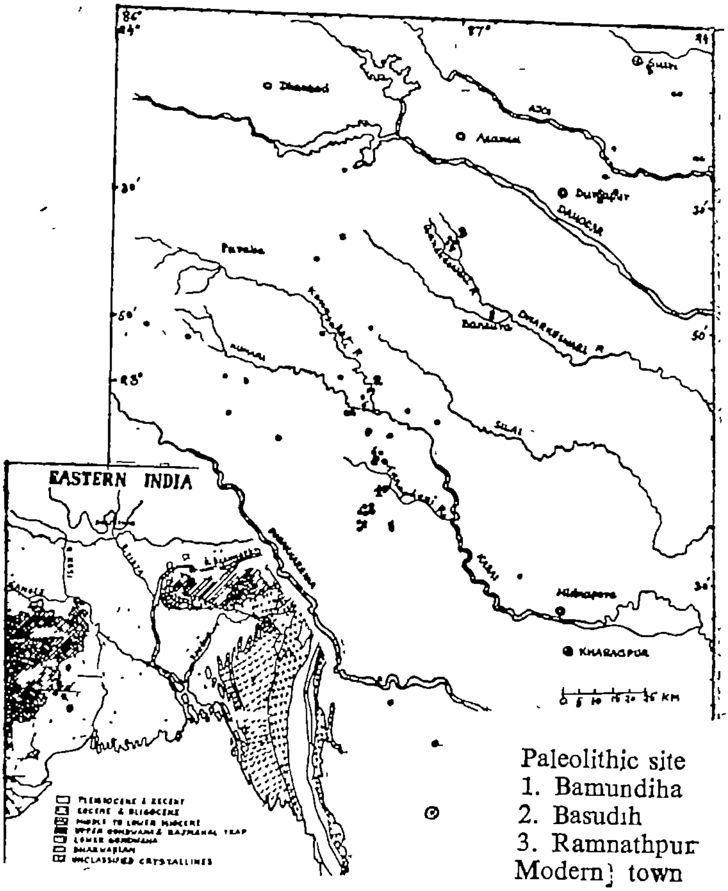
4. *District Census Hond Book*, *Bankura*, *West Bengal*, Calcutta, 1967.

5. R. V. A. Shastri, 'Pleistocene Vartebrates from Susunia, Bankura, District, W. Bengal '*Indian Minerals*, Vol, 20 (2) ; D. C. Dasgupta *et and*, 'Fossil Vertebrates from the Quarternary Deposits of Bankura, Burdwan and Purulia Distric(s, West Bengal, *Palaeontological Indica*, 1976, pp. 44-65.

6. G. R. Coles and E. S. Higgs, *The Archaeology of Early Man*, London, 1969 : F. Bordes, *The old Stone Age*, 1968, New York.

PLATES

11 : Prehistoric site, Bamundiha
12 : An exposed section, Bamundiha
13 : Excavated site, Netakamta
14 : Exposed section with *in situ* tools, Basudih
15 : Palaeolithic tools on the surface, Hapana
16 : Cordate hand axe, Ramnathpur
17 : Micoquian hand axe, Basudih
18 : Hand axe, Bausdih
19 : Hand axe, Bamundiha
20 : Cleaver, Bamundiha
21 : Chopper, Bamundiha
22 : Acheulian knife, Bamundiha
23 : Cleaver, Bonkati
24 : Acheulian flake and flake-blade tools, W Bengal



Paleolithic site
1. Bamundiha
2. Basudih
3. Ramnathpur
Modern town

Fig. 1 Distribution of Paleolithic Sites

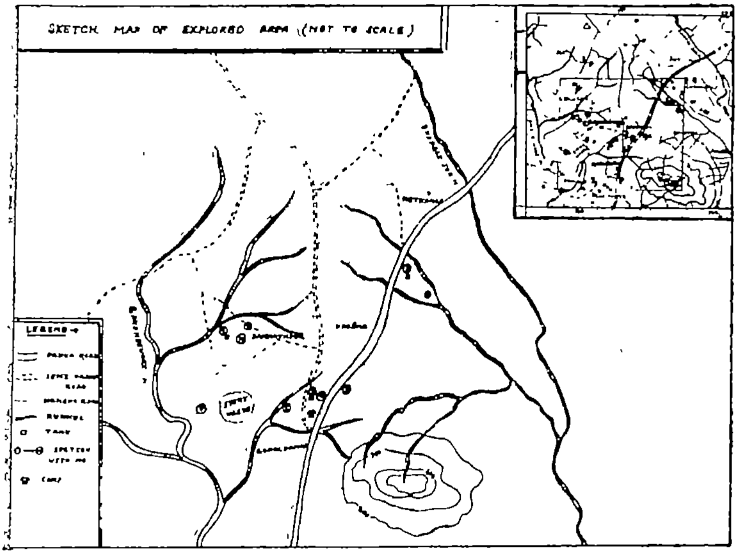


Fig. 2 Location of Palaeolithic sites in Upper Gandheśvarī valley

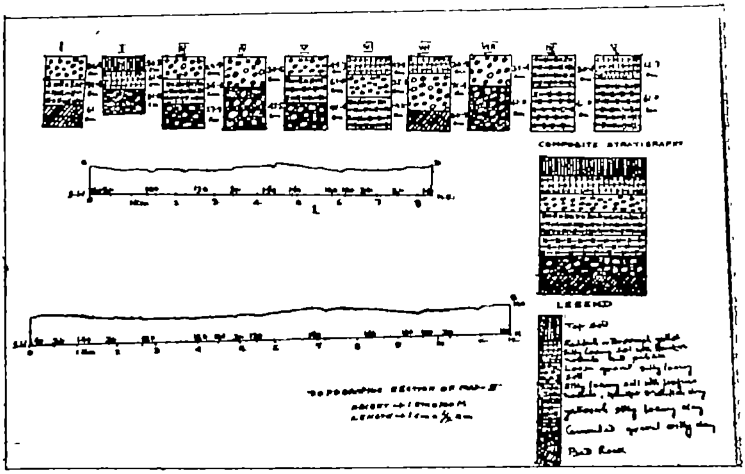

COMPOSITE STRATIGRAPHY
LEGEND
Top soil
Loose gravel silty loamy soil
yellowish silty loamy clay
Cemented gravel silty clay
Bed Rock

Fig. 3 Sections and composite stratigraphy of Upper Gandheswari valley

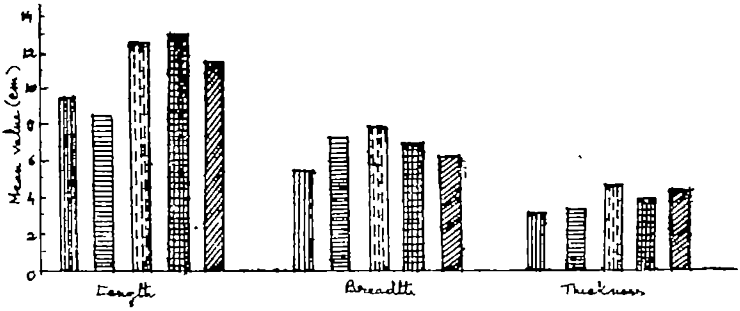


Fig. 4 Bar chart, hand axe

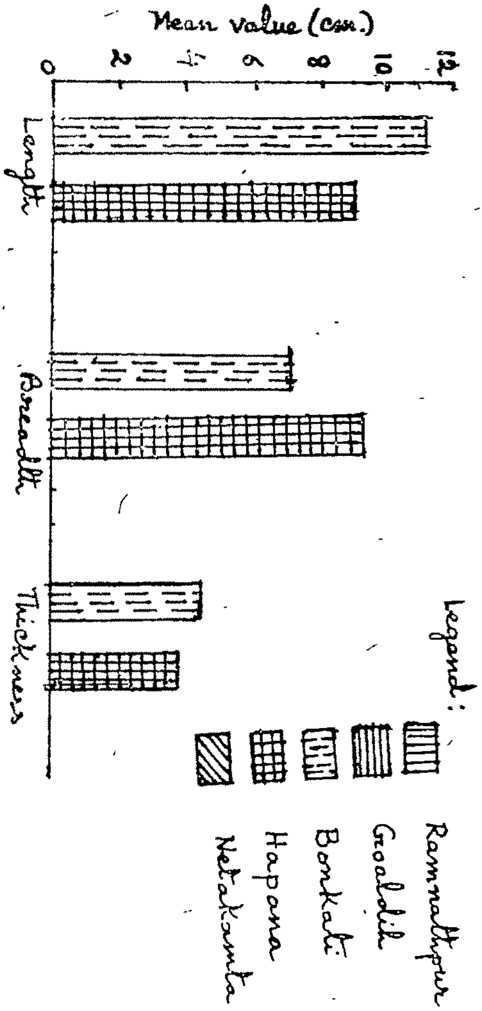


Fig 5 Bar chart, cleaver

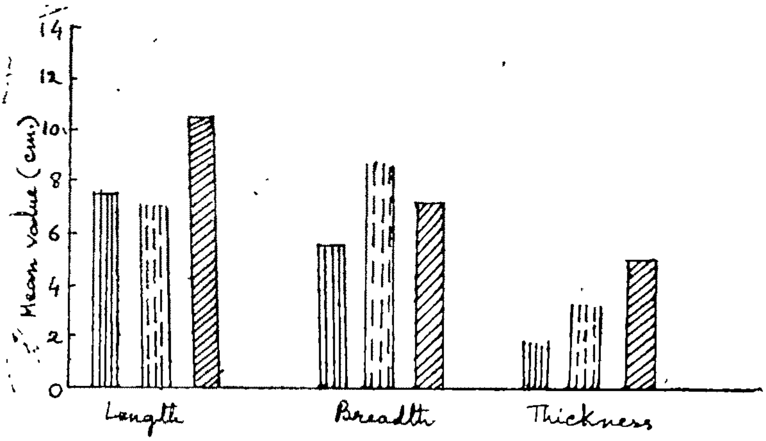


Fig 6 Bar chart, scraper

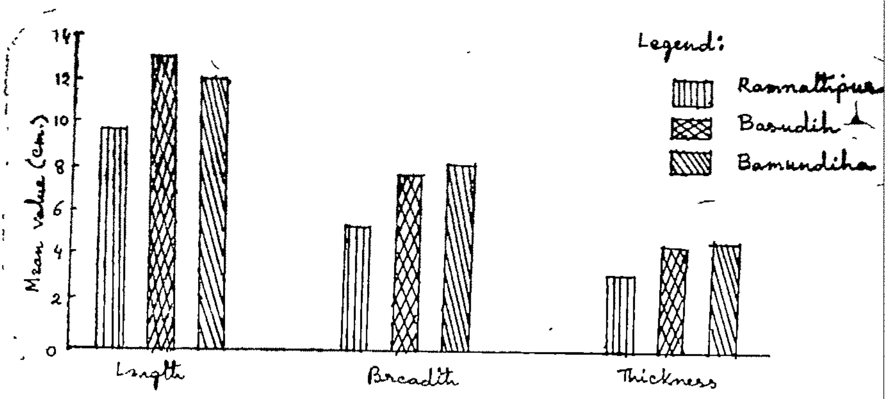


Fig 7 Bar chart, hand axe

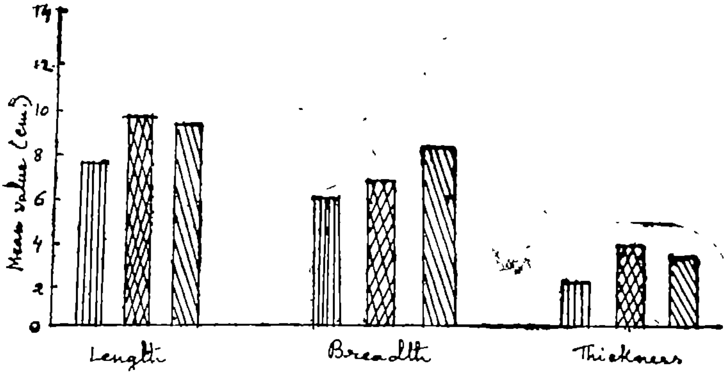


Fig 8 Bar chart, scraper

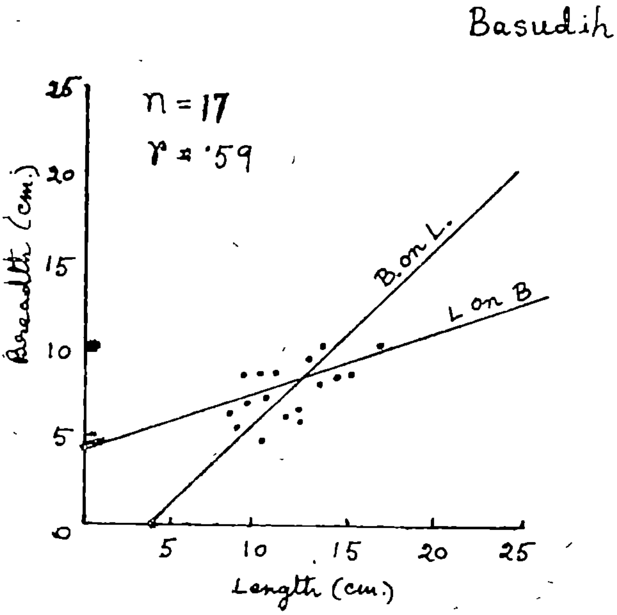
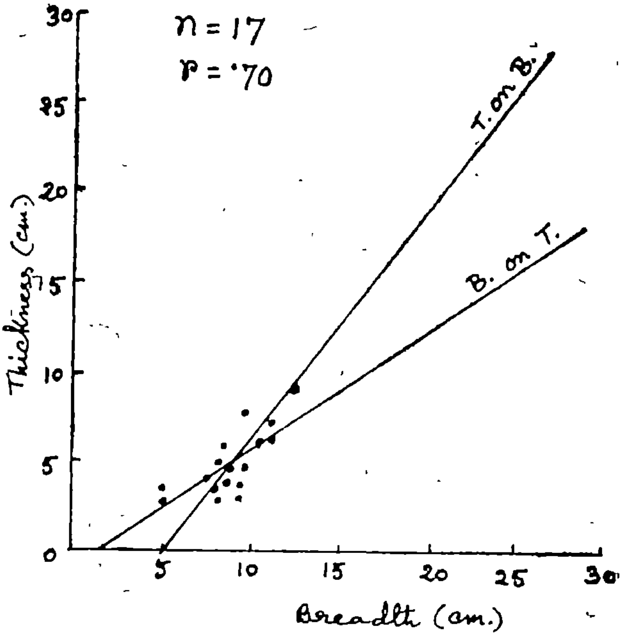


Fig 9 (contd)



Ramnathpur

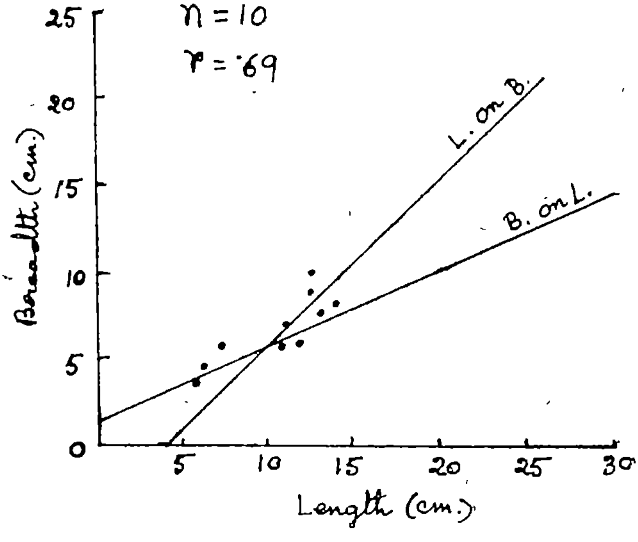


Fig 9 (contd)

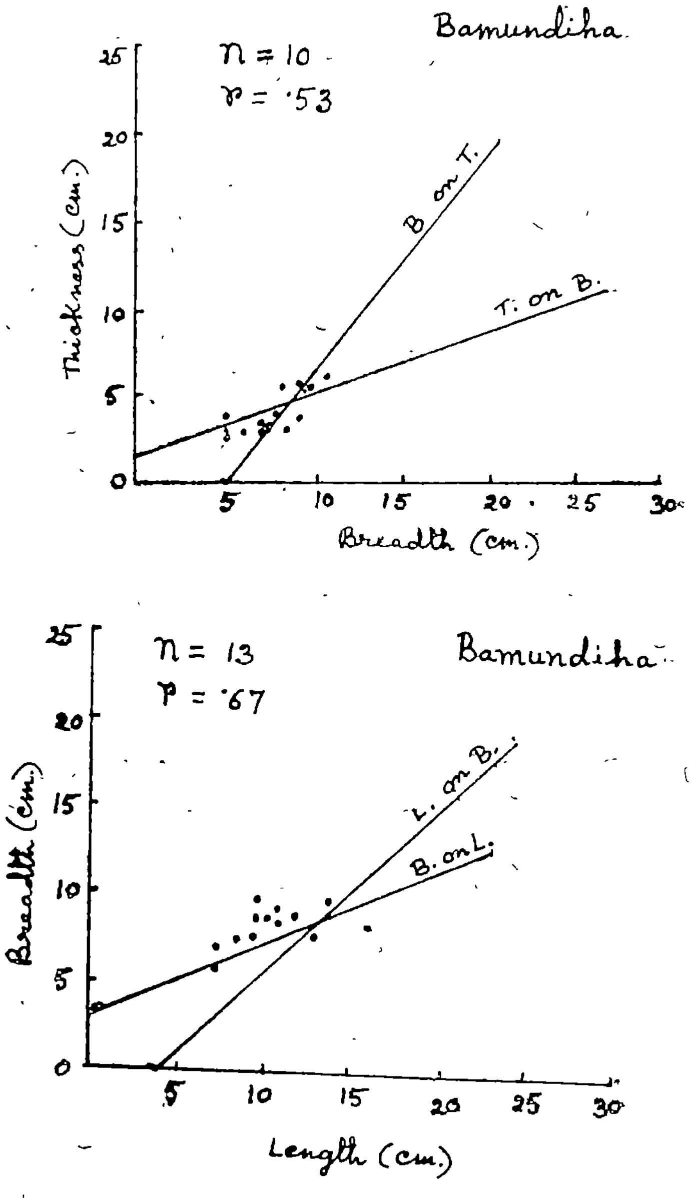
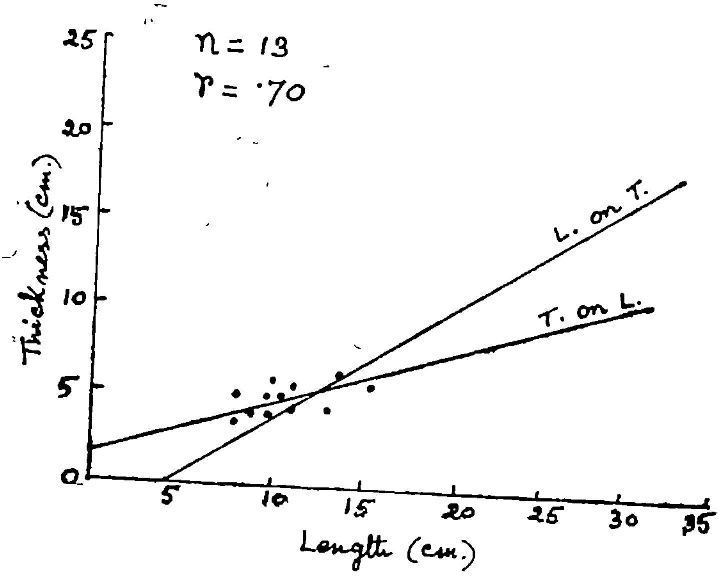

Bamundiha
n = 10
r = ·53
Thickness (cm.)
25
20
15
10
5
0
5
10
15
20
25
30
Breadth (cm.)
B on T.
T. on B.
Bamundiha
n = 13
r = ·67
Breadth (cm.)
25
20
15
10
5
0
5
10
15
20
25
30
Length (cm.)
L. on B.
B. on L.

Fig. 9 (contd.)



(contd.) Fig 9 Scatters of length, breadth and thickness along with fitted regression lines for each of the hand axes Basudih, Ramnathpur and Bamundiha

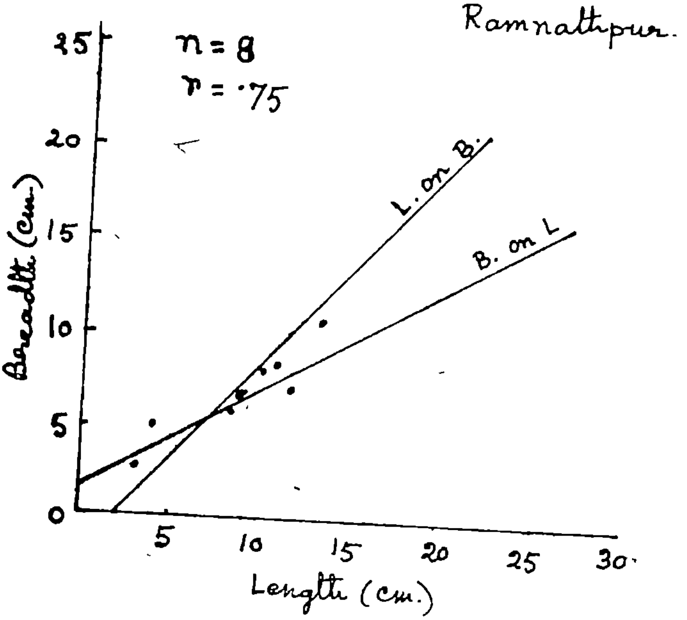
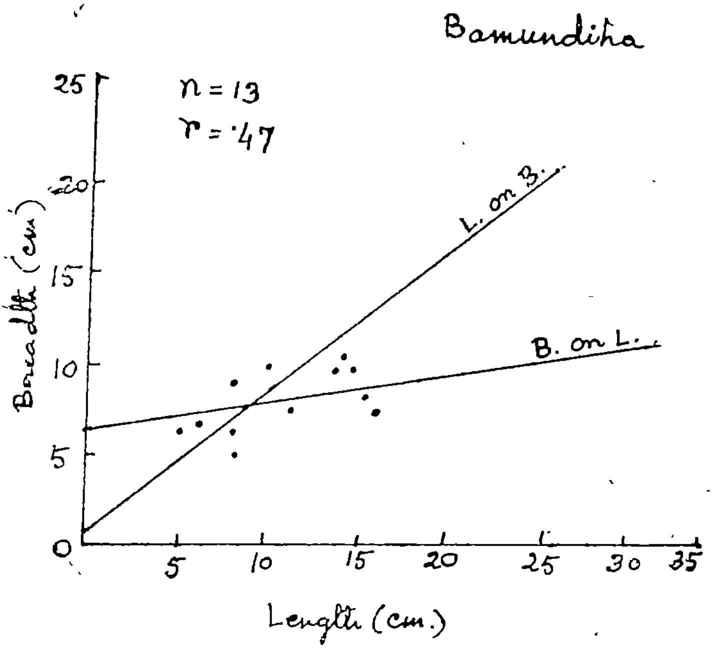

Ramnathpur.
n = 8
r = ·75
L. on B.
B. on L
Breadth (cm.)
0
5
10
15
20
25
5
10
15
20
25
30
Length (cm.)

Fig. 10



(contd.) Fig. 10 Scatters of length and braadth along with fitted regression lines for each of the scrapers.

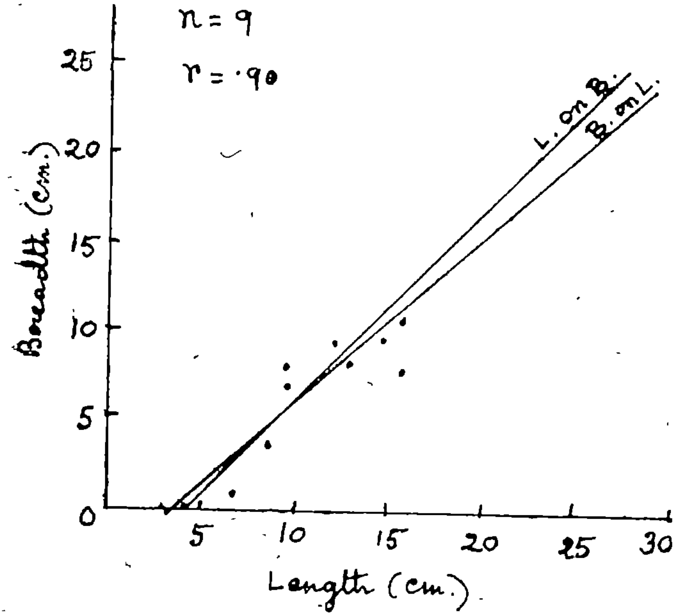
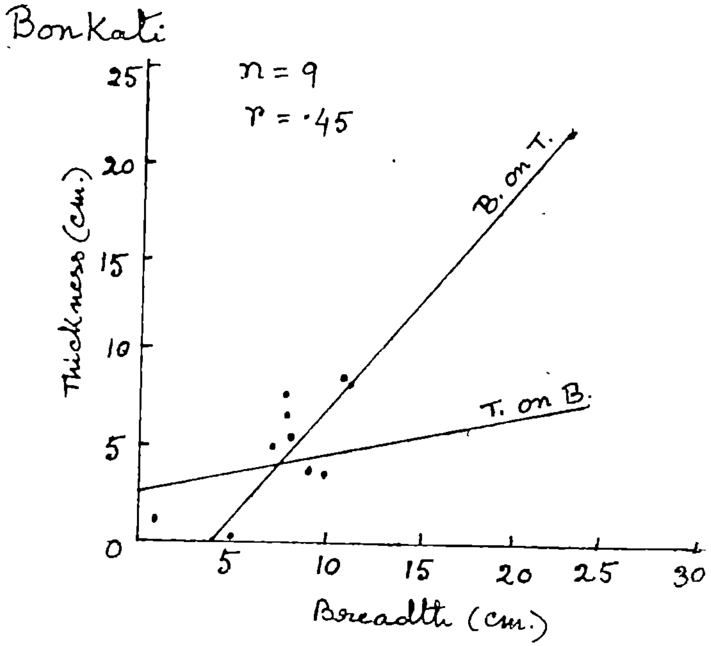
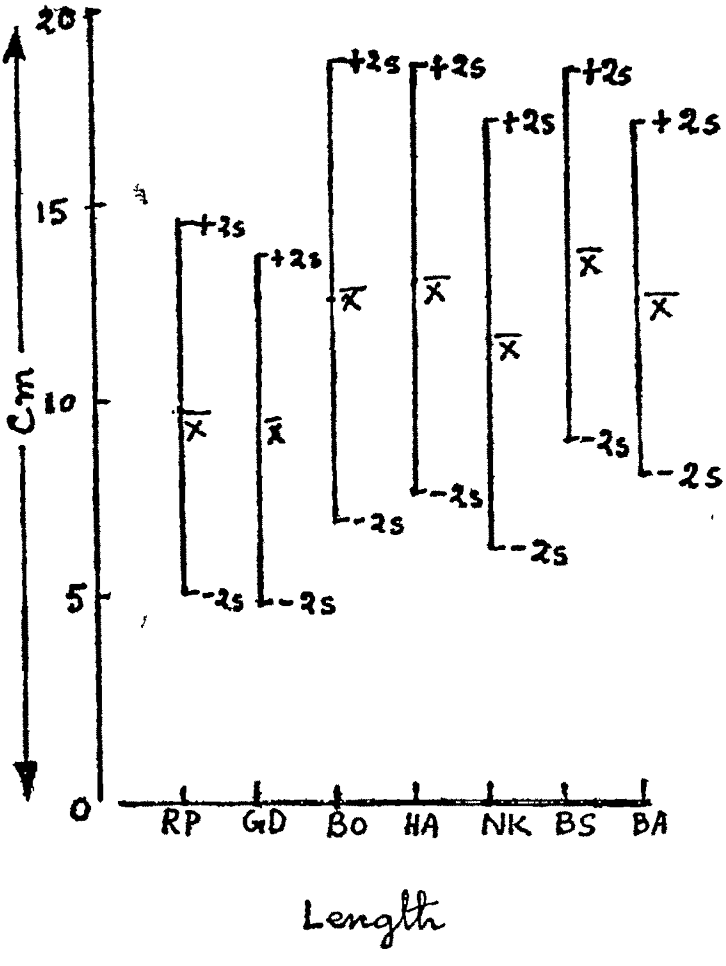

n = 9
r = ·90
Breadth (cm.)
25
20
15
10
5
0
5
10
15
20
25
30
Length (cm.)
L. on B.
B. on L.

Fig. 11 (contd.)



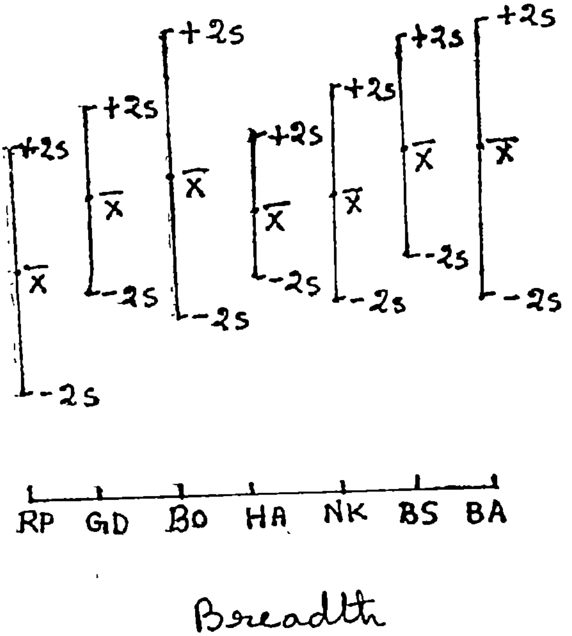
(contd) Fig. 11 Scatters of length, breadth and thickness along with fitted regression lines for each of the cleavers.

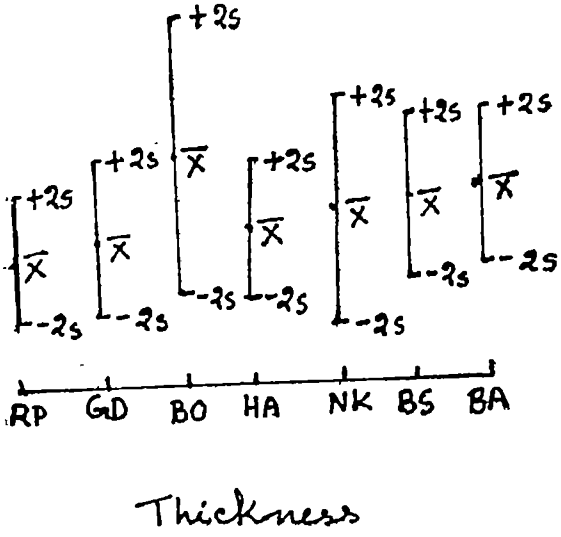


Legend :

RP	Ramnathpur	GD	Goaldih	BO	Bankati	HA	Hapana
NK	Netakamta	BS	Basudih	BA	Bamundiha.		

Fig. 12 Normal distribution pattern of hand axes. (contd.)


+2s
$\bar{X}$
-2s
RP
GD
BO
HA
NK
BS
BA
Breadth


+2s
$\bar{X}$
-2s
RP
GD
BO
HA
NK
BS
BA
Thickness

(contd.) Fig. 12

PALAEOLITHIC SETTLEMENT PATTERNS OF WEST BENGAL

Reba Roy *

Physiographically, West Bengal is divided into three distinct regions, viz., (1) extra peninsular mountainous terrain of Darjeeling Himalayas in the north, (2) peninsular tract comprising a rolling topography in the south-east, and (3) deltaic plains in the south-east. Of the three regions, the second, i. e., the undulating rolling upland is important for the study of Palaeolithic settlements of West Bengal. A brief account of the Palaeolithic find-spots from different districts of West Bengal is given below.

PURULIA DISTRICT

The general terrain characteristics are those of upland consisting of metamorphic rocks and spurs projectiug from the table land and swelling ridges of laterite. The geographical formation belongs to the Archean and Gondwana group of rocks. Geographically, the distribution of the Palaeolithic sites can be traced along the river valleys in the slopes in different parts of the district (Fig. 1).

A few Early Palaeolithic sites have been reported from the left bank of the river Subarṇarekhā. Implements consisting of crude choppers and flake along with Mesolithic tools were discovered a few kilometres downstream of the Murī on the slope of a hillock.[1] The tools are stained red and rolled. The site also revealed Acheulian hand axes and cleavers. Mesolithic tools were found on the surface. Another site on the Subarṇarekhā

---

* Department of History, Delhi University

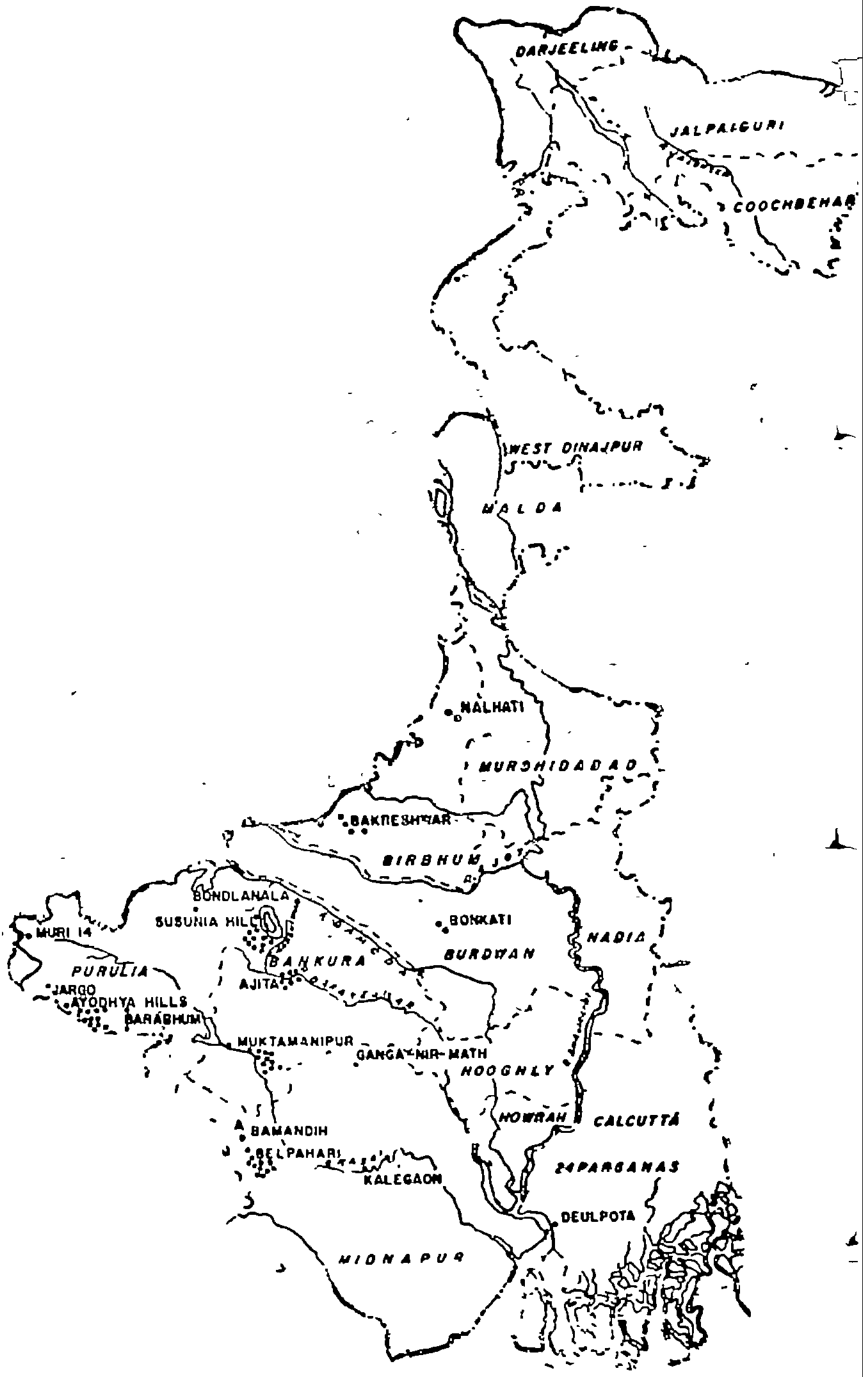


Fig 1 : Palaeolithic sites (indicated by dots) of W. Bengal

revealed cleavers and Acheulian choppers and scrapers, some of them being very fresh. Tools were found *in situ* in the secondary laterite deposit which is underlain by loose gravels and overlain by reddish soil, the latter being finally covered by recent alluvium. Another group of Early Palaeolithic tools consisting of rolled and patinated cleavers on quartzite was found within the gravels of a stream named Boṇḍlā close to the Jaicaṇḍī hills.[8] Besides, a rolled and patinated Abbevillian hand axe along with a few understandard implements on quartzite was also found. Similar tools are reported from a site on way from Purulia to Barabhum from the gravels of the stream named Amruhasa in the Ayodhyā hill and also from the cliff-section of the river Naṅgsai near Barabhum. Gravel bed of the stream Saharjore in the Bāghmuḍḍī hills have revealed Early Palaeolithic tools. By another exploration several hand axes were recovered from cliff-sections of the streams like the Harumatī, Amruhasa, Naogsai and Likisaiyā. Partly cemented and implementiferous gravel overlies the granite bed rock. Early Palaeolithic tools have also been reported from Bhanrarhia in the valley of the Kaṅgsavatī. This area and the adjoining area of the Bankura District have yeilded a large number of prehistoric sites.

Several sites of Middle Palaeolithic period have also been reported from the district. The sites are Amagora, Barabhum, Jargo, Namsol, Sindupur, Dadha and Matha forest. Middle Palaeolithic tools were discovered from the alluvial and sandy deposit forming high cliffs of the stream Patal, a tributary of the Kaṅgsāvatī river at Kesargarh.

BANKURA DISTRICT

This district is the intermediate tract between the alluvial plains on the east and the Chotonagpur plateau on the west. The greater part of the district is covered with laterite and alluvium. The gneiss and schistose rock of the Archaean occurs in the western part of the district forming the easterly continuation of the area of similar rocks in Chotonagpur.

As early as 1865, Ball discovered a hand axe made of green quartzite from the village of Kimkune, 29 km south-west of Govindapur.[3] After two years Ball discovered another Palaeolithic tool made on quartzite near the village of Gopinathpur, 18 km south-west of Bihārināth hill.[4] Since then a number of Palaeolithic sites have been reported from three micro-zones, viz. the Kaṅgsāvatī Valley, the Dārakeśvara Valley and the Susunia hills.

Exploration along the Kaṅgsāvatī and its affluents, the Kumarī and Jam, have revealed about 11 sites (Fig. 2). They are Ambikanagar. Paresnath, Chiadah, Buddhi, Puddih, Hatikheda,

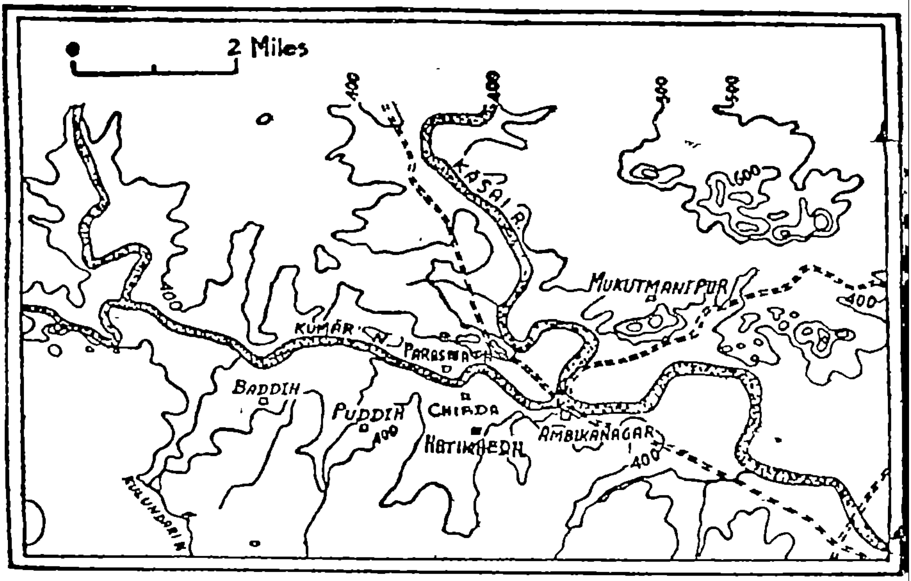


Fig. 2 : Palaeolithic Sites in the Kaṅgsāvatī Valley

Surengarh, Mukutmanipur, Bhedua, Basantapur and Kajalkura.[5] The main horizon of the Early Palaeolithic people seems to be 150m above the mean sea level. Implements included hand axes, ovates and cleavers made on quartzite.

A number of Mesolithic and Neolithic tools have also been reported from this area.

An important site in the area is Kankradara.[6] The site revealed about 100 Early Palaeolithic tools. These tools were discovered from the meandering course of the Kaṅgsāvatī. They were often found embedded within a matrix of secondary laterite underlain by an igneous formation in dyke. This was probably a macro band camp of the Early Palaeolithic people.

The second micro zone, i. e. the Dvārakeśvara valley revcaled a group of Palaeolithic sites near Bankura. The sites are Ajita, Bhutsanar, Dhaldanga, Damodarpur, Manjura, Upersol, Krishnanagar, Nuniabed and Chikchika. The tools included choppers, scrapers and hand axes.

Most of the choppers and scrapers were made on quartz and quartzite. Tools came from detrial laterite with gravels which overlie at places the bed rock of schistose and granite gneiss and underlie the recent soil.

The implements occur in two horizons within the laterite complex, the earlier one with choppers from the gravelly laterite while the latter is fram the *Murum* yeilding bifaces. Dunn and Dey[7] have observed the alluvium and the laterite as overlying older rocks and have dated them as Recent and Pleistocene, but this requires further confirmation.

The most important group of Palaeolithic sites are reported from the Susunia hill region,[8] the third micro zone. The hills rise abruptly from the neighbouring undulating plains to a height of 439.5m. It runs due east and west for a length of 3 km. Susunia and other peaks such as Punchkot, Biharinath, Bishirda, etc. in the neighbourhood are parts of the Chotonagpur plateau. The region of the Susunia hills covering the valley of the Gandheśvarī river along with other nullahs in the horizon brought to light the largest concentration of the Early Palaeolithic tools numbering more than 2,000. Tools are found around the Susunia hills amongst gravels and cliffs of streams like Bāṅkājore, Dhānkorā and Gandheśvarī, besides other nullahs. Thirtyfive Early Palaeolithic find-spots have been found. Susunia has been described as 'one of the largest factory sites of the Early Stone Age in Eastern India.' The tool kits included highly evolved pear-shaped Acheulian hand axes, ovates, cordates and cleavers (Pl. 1).

On the basis of the sections of different cliffs of the rivers Dasgupta[9] gives a general stratigraphy of the area with the correlation of stone tools. His correlation has been brought under four divisions as indicated below.

(1) Sand stone foundation . The sand stone foundation is floggy and disjoined at places. Dasgupta presumes that on the surface of the sand stone foundation lived the first nomadic users of hand axes during a drier phase.

(2) Cemented gravels : These have average thickness of 1 m. There was a change in climate probably more than 1,00,000 years ago. The dry phase was followed by a wet phase. As a result, the volume of the rivers must have vastly increased and gravels were deposited in the foot of the hills as also on the cliffs and beds of streams and nullahs. During this period, the Early Palaeolithic men went on producing tools in better and finer forms. This is regarded as the main horizon of Early Palaeolithic tools. This layer is mainly composed of quartz and quartzite, besides leterite pellets alongside sticky mud functioning as binding materials.

(3) Sandy Deposit : This deposit is of yellowish or ochre-red

colour, occasionally containing pieces of quartzite, pegmatites and felspar. Formation of the sandy deposit in the lower valley indicates a drier warmer climate. Lakes, created due to heavy rains of previous phase, probably, were a great attraction to Palaeolithic man and animal. This deposit is regarded as horizon for Middle Palaeolithic tools, though some of the forms of Early Palaeolithic industry lingered on. Important finds in this strata are those of animal fossils. These include the fossils of buffalo, ox, elephant, horse, lion, pig, hyena, etc.

The Middle Palaeolithic tools recovered from Susunia included small ovate like tool with cleaver edge, scraper-cum-hand axe with flake scars on Acheulian origin, scraper or cutter on pebble, blade-cum-borer, hollow scraper with crooked end, blade or knife with convex cutting edge and scraper with nibbled retouch.

(4) Layer of the Sandy Earth : This layer is slightly yellowish in colour. It has laterite pellets with gravel on the surface. This may be indicative of a wet phase of Recent Age. Mesolithic blades and flakes along with material of the Neolithic complex are ascribed to this phase on the basis of their general occurrence on sandy earth.

But these sections map may not have much bearing on the tools collected from the Susunia hills, as there is no positive indication that the tools were actually recovered from any one of the layers of the sections. In fact, the majority of tools recovered from the valley are of the same variety and material as obtained from the Susunia hills. Most of the tools were recovered from the river beds and were washed out specimens from the Susunia hills. In such a case, the river sections may not have much bearing on the stone tools. However, the sections give an indication of the climatic fluctuation during the Palaeolithic Period in West Beegal.

One very important point regarding human habitation in this area is the existence of a number of caves on its hills and slopes. It is not known definitely whether they were contemporaneous with the Palaeolithic people. However, it is presumed that the prehistoric man living in the neighbourhood had taken temporary shelter in them. Until these caves are excavated, it is not possible to come to any definite conclusion.

Faunal Remains

A large number of fossilized and semi-fossilized skeletal remains of vertebrates were obtained from the Susunia deposit. The examination of these fossils by the Palaeontologist of the Geological Survey of India identifies them with the fauna assemblages of the Upper Pleistocene with some indications of the earlier times.[10] Mammals found are *Babulus palacindicus* (buffalo), *Equas namadicus* (horse), *Panthera cf. leo* (lion), *Sus cf. cristatus* (pig) and *Crocuta cf. slvatesus* (hyena). The other important fossils found in the region are *Bubalis Bubalis Linn*, *Jiraffa*, *Bovidea* and *Rodentia*. Some of the species found were contemporary with Early Palaeolithic tools. The fossils of hyena of the Susunia hills belonged to the same group as Siwalik hyena. It is interesting to note that *Bubalis Bubalis Linn* were found here as they were found only in low grassy plains of riverine beds. These throw light on the environment of remote past of the Susunia hills region. According to the C-14 dating of the molars of elephant, about 40,000 years back the prehistoric animals lived in the area. The Middle Palaeolithic Period in India is dated between 50,000—25,000 B. C.

BIRBHUM DISTRICT

Throughout almost the entire area of the district the surface is broken by succesions of undulation, the general trend of which is from north-west to south-east. The district is well drained by a number of rivers and rivulets. Only a few Palaeolithic sites are reported from the district. They are concentrated in the north-western part of the district. Early Palaeolithic sites are reported from the north-western part of the hill of Devi Lalāṭeśvarī near Nalhati and Jibdharpur, situated 3 km south of Suri.[11] Middle Palaeolithic tools are reported from Jibdharpur. Girindanga, Chinpai and Maligram in the valleys of the Bakreśvara and Kopāi.[12] The tools of the Middle Palaeolithic period comprise scrapers, points and blades of chert and jasper.

MIDNAPORE DISTRICT

The general appearance of the district is that of open and well cultivated plains. But towards the north and west it gently undulates with ridges covered by thick forest of sal trees and shrub jungle. The characteristic formation of the district is laterite which occupies nearly the whole of the north and west, but the south and east gradually gives way to the alluvium of the Gangetic delta.

The concentration of Palaeolithic sites is known from the rugged north-western part of the district. Early Palaeolithic tools consisting of choppers, hand axes and scrapers have been reported from a secondary laterite deposit at Gopalpur. The tools, bearing laterite detrital in character, were found on the slope. Similar tools have been found from the sites of Bamandih, Belpahari, Katabone, Krishnapur and Muransole. The tools are made on quartz and quartzite. They were found embedded in the secondary laterite which is underlain by Archaean bedrock and overlain by reddish soil. Microliths have been reported from some of the sites. Hand axes and scrapers of the Early Palaeolithic

Period were discovered at Chakadoba where some tools were found *in situ* in detrital laterite.[73] Astajuri, Bhedkui, Bamandih and Nayagarh have yielded Early Palaeolithic tools including choppers, hand axes, clevers and awls.[74]

Exploration along the valleys of the Subarṇarekhā and Pitanau revealed the presence of Early Palaeolithic tools at the site of Rangamatia. Several localities in the area stretching from the region of Tapovan and Chandabila in the east to the rugged uplands of Ghorapincha, Begundiha and Hatibari in the west have yielded Early Palaeolithic tools.[75] The locales include cliff section, terrace and valleys. A large number of pebble tools and and flakes were reported from the eroded upland of Dhaṅkāmalā and high terraces of the Sapkoṭhā hill. Acheulean hand axes along with Middle Palaeolithic and Mesolithic tools, besides a Neolithic celt, were found at Ganga-nir-math, situated on the ancient terrace near Garbeta flanking the river Śilāvatī and at Kalagaon, situated on the eroded cliff overlooking the Kaṅgsāvatī near Midnapore.

SOUTH 24 PARGANAS

The district lies within the Gangetic delta. There are two natural divisions in these districts, viz. the northern tract which is fairly well raised delta land of old formations and the low lying Sunderbans towards the sea in the south. The principal rivers are the Hooghly, Gaṅgā, Saptamukhī and Mātlā but practically each river forms the centre of a minor system of interlacing distribution of its own.

Only one Palaeolithic site, belonging to the Middle Palaeolithic Period, has been reported from the district. The site is located in Deulpota on the deltaic flats on the nort eastern bank of the Hooghly river, 1.6 km. north of the Diamond Harbour.

The following will show in tabulated forms available information on the Palaeolithic Settlements of West Bengal :

Approximate number of sites	Location	Commnnity pattern and Dwellings	Total typology	Approximate number of tools from each site and material
124	River valley, clif section, river terrace and hills.	Mostly temporary transitory camp site of micro band people, one base camp at Kankradara. Type of dwellings Unknown, probably nominal shelters built with locally available materials such as branches, leaves, etc.	Chopper, handaxe, cleaver, point, awl, borer, etc.	Number usually a few. Kankradara—100. Susunia Hills—2000 Material ; quartz, quartzite, flint, chert, fossil wood.

The northern bank of the Hooghly river from Deulpota to Harinarayanpur was surveyed covering approximately an area of 15 km.[16] The survey revealed the occurrence of discontinuous patterns of fine to coarse sand mostly at and around Deulpota. The explorer is inclined to put the Middle Palaeolithic industries to this sandy deposit. Besides the well worked and finished tools, a large number of nodules were found deposited in this horizon. These tools are made mostly on chert and rorely on chalcedony and dark gray finery material. Tool typology comprises unifacially worked sub-traingular points, borers and side scrapers.

BURDWAN DISTRICT

The district has two divisions—the eastern portion is wide alluvial plain enclosed by the Ajaya, Bhāgirathi and Dāmodara and in the west lies a strip of rocky undulating land between the Ajaya and the Dāmodara. The district is covered by the alluvium except in the Asansol Sub-division where Gondwana rocks are exposed. The soil is partly laterite clay and partly red coloured coarse grained sand, characteristic of the eastern regions of the Vindhyan formation.

A few Palaeolithic sites have been reported from the district. The site of Bonkati on the southern bank of the Ajaya revealed Early Palaeolithic industry consisting of chopper, chopping tools and hand axes. The tool material of the Early Palaeolithic Period included quartzite and fossil wood.[17] According to Dasgupta, tools made on fossil wood recall comparable horizon of Anvathian of Burma.[18] Even today fossil wood is found along the river bank of this region. It is likely that the availability of the fossil wood in the area attracted the early man to utilise this material for making tools. Middle Palaeolithic tools were also reported from Kurura.

Location and Site distribution

All Palaeolithic sites in West Bengal are located in the hilly upland of the Peninsula or the plateau fringe region which is an extension of the Chotonagpur plateau. This physical horizon includes the western borders of the districts of Birbhum, Burdwan, Bankura, Midnapore and Purulia. Just about 125 Palaeolithic sites are reported from West Bengal indicating how West Bengal was very sparsely populated during the Palaeolithic times. A look at the distribution of the Palaeolithic sites points to the isolation of the single site of Deulpota in South 24 Parganas. Geological and geographical perspectives of the area hardly correspond to the wandering horizons of the Palaeolithic man. It is highly probable that the tools might have been carried down by the river from its location somewhere upstream. By reasons of the density of sites it appears that the western plateau fringe with its flat to gently undulating topography, mature valleys, occasional ridges, raw material for tools, thick growth of vegetations and abundant games attracted the Palaeolithic hunters and gatherers. Even at present this part is largely covered with jungles of mixed forest. Wild life including elephant, tiger, leopard, wolf, bear, hyena and many other smaller animals roam about in the area.

Classification of Sites

On the basis of size, location, function, etc. Palaeolithic sites have been classified into three types, viz. (1) base camp or home base, (2) temporary sites and (3) factory sites. Home base is a site which was continuously occupied over a long period. A temporary site was occupied for a short period primarily as a kill site or a transit for waiting while wandering. A factory site is a site where due to availability of raw material prehistoric man made his tools. The tools kit in a factory site consists of a few finished tools, greater amount of unfinished tools and by-products of waste chips which are results of elaborate process of manufacturing tools.

Most of the Palaeolithic sites in West Bengal are in the nature of transit camps. They are surface scatters revealing very few tools. Their stratigraphical positions are unknown and uncertain. Many tools have been foundto be redeposited and as such do not represent any precise settlement locations. However, they indicate occupations or wandering of their authors in the locality. These sites may be regarded as micro band transit camps. The site of Kankradara revealed a considerable number of tools showing evidence of occupations by large groups of early men. These probably represented temporary coalescing of some of micro bands in macro band or base camps. The basic pattern probably was one or two home bases with a seattering of temporary sites or temporary seasonal camps of the micro band or groups. In case of Susunia, it is difficult to classify the sites as their exact locations and number of tools are not known. However, the concentration of such a large number of tools indicates an extensive exploration in the area during the Palaeolithic times.

Dwellings

The Palaeolithic people in West Bengal living by hunting and gathering had to wender over an extensive territory during an annual cycle exploring natural sources as they were available. The surface scatters of the Palaeolithic implements from the river beds of West Bengal indicate a nomadic life in the open on the banks of the rivers and streams. It appears that throughout the

Palaeolithic Period man did very little to organise his dwelling place. At time of heavy rainfalls or severe cold, the Palaeolithic man of West Bengal as elsewhere, probably made their temporary shelters with locally available material such as grass, tree leaves, thatch, etc. at every camping site. Definite proof of occupation of caves by the Palaeolithic hunters and gatherers of West Bengal are still lacking. However, the presence of a number of caves in the Susunia hills falling in the exploitation territory of the Palaeolithic bands indicates temporary sojourn in them by the Palaeolithic man.

Ethnographic Data

Ethnographic data from the surviving primitive people are very useful to reconstruct the settlement patterns of prehistoric people. These people demonstrate ecological and economic conditions which can perhaps be compared with those of the prehistoric people. Ethnographic data relating to patterns of residence movement, group size, utilisation of local wild food, etc. give valuable clue for the reconstruction of Palaeolithic cultures.

The Birhors or men of the forests live today in the Chotonagpur plateau adjoining the western fringe which was the habitat of Palaeolithic people of West Bengal. At present they live in temporary settlements on the fringe of the forest. These settlements consist of half a dozen of leaf huts. The field investigators fonnd that one particular group of the Brihors changes shelter more than a dozen of times a year. In summer they sought shade of trees, in winter open and sunny space and during rains leaf huts.

The Birhors can build their huts very quickly. Bose narrates, "One winter as we were travelling in the district of Singbhum in Bihar, we had passed through forest in the morning without noticing anything. But while on our way back at night, we found a whole village of about dozen huts have sprung in course of the day...they told us that they had settled down there the same day."[10] Three types of camps are found among the tribes of Andamans—permanent camp used for most of the year, particularly whole of the rainy season ; temporary camps which are built when groups leave their permanent camp because of the death of a member, and hunting camp which is organised by hunting party for a few days away from the permanent camp. The permanent camps are usually used by about fifteen families. The temporary camps are carelesly built. The hunting camps are simple lean-to made of leaves and branches.

The temporary huts or lean-to are even now found among the Kadars in Kerala (Fig 3). They consist of wind screen or leaf shelter. The chief occupation of these primitive people are hunting and trapping. Similar huts are used by many primitive tribes in different parts of the world.

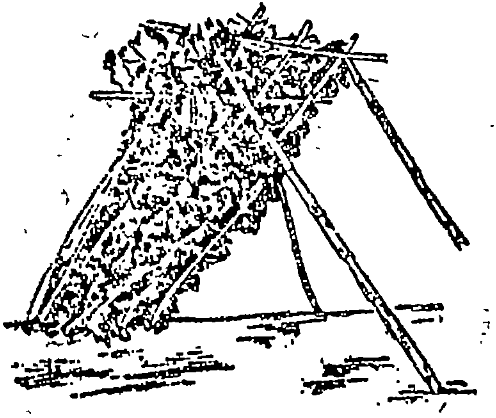


Fig. 3 Lean-to huts of the Kadars

From the ethnographic survey of the primitive peoples it appears that the primitive tribes, particularly the Birhors, afford the most important clue regarding the settlement petterns of the Palaeolithic people in West Bengal particularly in respect of selection of sites, shape of huts, method of construction of leaf huts and size of band, mobility, etc.

Stratigraphy and Environment

The general stratigraphy of horizon yielding Palaeoliths are bedrock, laterite conglomerate, laterite silt with grit and loose gravel. In most cases the laterite deposition yielded Early Palaeolithic tools and laterite silt with grit Middle Palaeolithic implements. Blade tools were recovered from loose gravel.

The stratigraphic constituents indicate climate fluctuation during the Palaeolithic times. In West Bengal glacial and inter-glacial Periods of the Pleistocene was only indirectly felt by a great lowering of temperature and increased rainfall followed by warm period of relatively low ranifall. During the glacial periods the valley areas of the Himalayas were covered with glaciers. The climate became icy-cold as the glaciers moved down to the foot hills. A severs cold wave gripped north India for thousands of years. West Bengal along with the Indian Peninsula experienced heavy rains. During the inter-glacial periods the water released from the glaciers flooded the strems. The rushing of streams moving with great speed cut through the valleys and made huge gorges. A great load of detrious was deposited on the eroded surfaces of the valleys. The water level of the ocean rose and flooded coastal areas. Lower Bengal was flooded by sea when the glaciers had melted. In all varied environment of the world, changes in flora and fauna took place during the Pleistocene. Unfortunately the ancient flora and fauna remains in West Bengal had not been adequately studied. However, the large number of skeletal remains of vertebrates discovered from the Susunia hill region has been identified with the fauna-assemblages of the Upper Pleistocens bearing some indications of earlier times. The present inhospitable denuded plateau was forested and inhabited by a varied population of hervivores and carnivores, rodents and primates throughout the varied climatic phases of the Pleistocene Period.

Tools

Through the Palaeolithic Period the toolmakers made their tools from locally available raw material. It seems quartz and quartzite were the most preferred raw material during the Early and Middle Palaeolithic Period. Tools kit of the Early Palaeolithic people consists of choppers, scrapers on pebble and core, flakes and cleavers. The Middle Palaeolithic industry includes scrapers, borers and points. In West Bengal, so far, Upper Palaeolithic tools have not been found from any distinct horizon. A careful and planned search in the western upland will probably bring out evidence showing this area within the exploration territory of the Upper Palaeolithic neighbours of south Bihar or western Orissa.

Mobility and Subsistence Pattern

In West Bengal, as elsewhere, men in the Palaeolithic Period were mobile in search of food and game exploiting different micro-zones. In consequence one particular site is only one of the sites occupied by one band. Bands were mobile perhaps due to limitation of resources available in a particular environment. It appears that Palaeolithic man in West Bengal lived on hunting games, gathering vegetal food and fishing. Archaeologically, the faunal remains discovered from the Susunia hills region give an indication of wonderful animal life that flourished in West Bengal during the Palaeolithic Period. The frequency, regularity and extent of movement influenced the manner in which they could be exploited and this in turn influenced settlement patterns of the people.

Among the surviving primitive people, though meat is a preferred food, it is not a staple one. About 600 floral varieties are used as food stuff by tribal people of India (pl. 20).[20] The rich forests of West Bengal produced a great quantity and variety of seasonal vegetal food, especially foliage, roots, flowers, berries, etc. A major portion of the diet of the Palaeolithic man was probably based on this vegetable food.

The area of the Palaeolithic sites in West Bengal, being situated at the junction of high land and low land, probably offered optimum exploitation potential. This was particularly helpful for the animal based economics of the Palaeolithic bands as there was perhaps a seasonal pattern of movement from high to low lands. Moreover, the junctions of two complementary economic zones of upland and lowland could be exploited with minimum loss of time and effort.

It appears that initially the nomadic micro bands, consisting of a group of families, hunted game or collected food in all seasons without any definite pattern of movement or territoriality. In other words, their movement was not connected with any season. Gradually, however, by natural process of convenience and minimum utilisation of resources, a pattern based on seasonality was evolved and the Palaeolithic people acquired a better knowledge of food potential of micro-environments in different seasons. People learned to undertake different kinds of huntings in different seasons. It meant that the Palaeolithic man in latter part started moving in certain well regulated regional cycles and the bands probably became tied to particular territories. Archaeological evidence relating to the seasons, encouraging congregation of micro band into base camp in the Palaeolithic period, is lacking in West Bengal. However, it is presumed that, in the season like the rainy season when food in the shape of wild plant was plentiful, the number of micro bands of the Palaeolithic hunters of West Bengal would gather into macro band along valley slopes and river banks and with the dwindling food supply of winter the macro band probably dispersed into micro band. Thus the community pattern in the initial stage of the Palaeolithic Period in West Bengal was probably macro-micro band without any definite seasonality or territoriality which gradually became seasonal macro-micro band within definite territories, with scheduled subsistence systems. The initial transition from the nomadic macro-micro band to the seasonal macro-micro band seems to have a slow process which continued throughout the Palaeolithic Period.[21]

Size of Groups

The ethnographic survey generally indicates that the size of the Palaeolithic bands was small. The limited recources of one locality did not permit dense collection of people and the hunters thus lived in smaller groups than in any other level of society. As suggested by Devore and Lee, the Pleistocene carrying capacity of one person per square mile remained in force until the origin of agriculture and this would mean small groups or microbands as the basic organisation.[22] Macro-band might have represented seasonal manifestation of the same rociety, who otherwise would have camped as micro bands. Despite the uncertain accuracy of the demographic data, there seems to be the general indication that twenty to thirty people might be regarded as the average to constitute a micro band group of hunters and gatherers. A macro band generally would consist of more than two or three micro bands.

So far no proper base camp or sealed primary site has been excavated in West Bengal. The settlement patterns of the Palaeolithic people will be more explicit when such sites are discovered and excavated.

NOTES

1. *Indian Archaeology—A Review* (abv. *IAR*), 1965-66, pp. 58-59.

2. *IAR*, 1966-67, p. 45.

3. V. Ball, "Stone Implements Found in Bengal," *Proceedings of the Asiatic Society of Bengal*, 1865, pp. 127-128.

4. *Id.*, "Note on Stone Implements Found in Bengal," *ibid.*, 1867, p. 134.

5. *IAR*, 1959-60, pp. 48-50 ; D. Sen, A. K. Ghosh and M. Chatterjee, "Palaeolithic Industry of Bankura, West Bengal," *Man in India*, Vol. 43, pp. 100-18.

6. *IAR*, 1968-69, p. 41.

7. J. A. Dunn and A. K. De, "The Geology and Petrology of Eastern Singhbhum and Surrounding Areas" *Memoirs of the Geological Survey of India*, Calcutta, Vol. 39, Part II, 1942, pp, 281-456.

8. *IAR*, 1965-66, pp. 55-57 ; P. C. Dasgupta, *Pragaitihasik Susunia* (in Bengali), Calcutta, 1967 and *Pragaitihasik Bangla* (in Bengali),Calcutta, 1981.

9. *JAR*, 1965-66, p. 56.

10. Dasgupta, *op. cit.*, 1981, pp. 52-56, Arun Kumar Datta, "Occurrence of Fossils of Lion and Spotted Hayena from Pleistocene Deposits of Susunia, Bankura District," *Journal of the Geological Society of India*, Vol. 17, No. 3, pp. 386-91.

11. *IAR*, 1964-65, p. 46, 1962-64, p. 59.

12. *IAR*, 1961-62, p. 59, 1966-67, pp. 44-45.

13. *IAR*, 1968-69, p. 42.

14. *IHR*, 1961-62, p. 59.

15. *IAR*, 1968-69, pp, 41-42.

16. *IAR*, 1963-64, p. 59, 1964-65, pp. 51 & 96.

17. P. C. Dasgupta, "Excavation at Pandu Rajar Dhibi,' *Bulletin of the Directorate of Archaeology, West Bengal*, No. 2, pp, 46-48. See also *Pragaitihasik Bangla*.

18. *IAR*, 1963-64, p. 59.

19. N. K, Bose, *Tribal Life in India*, New Delhi, 1971, pp. 30-37.

20. H. B, Singh and R. K. Arora, *Wild Edible Plant of India*, New Delhi, 1978.

21. Barbara Bander, *Farming in Prehistory ; From Hunter Gatherers to Food Producer*, London, 1977, pp. 170-80,

22. R. B. Lee and I. Devore, "Problems in the Study of Hunters and Tatheress," in R, B, Lee and I. DeVore (eds.), *Man the Hunter*, 1968, p, 11.

List of Plates

Pl. 25 : Palaeothic tools (Susunia)
Pl. 26 : Edible roots of wild plants

CHALCOLITHIC AND COPPER HOARD CULTURE IN WEST BENGAL—A COMPARATIVE STUDY

Asok Datta *

The immediate effect of the decline of the Harappan civilization was the development of a large number of village communities, primarily based on agricultural activities. These agriculturists are covered under a generalized term Chalcolithic[1] and characterized by the use of copper and stone. But recent excavations at a number of Chalcolithic sites have revealed the unmistakable association of iron with the Chalcolithic culture. A change in the basic concept and connotation of the term Chalcolithic is, therefore, needed. But unlike the uniformity found in the Harappan distribution system, this culture is marked by distinct regional developments, possibly due to the existence of a number of ecological zones. Black and Red ware, being the diagnostic trait of this Chalcolithic culture, occurred in a variety of cultural contexts, from Neolithic to Megalithic including the regional variations like Malwa, Banas, Kayatha, Lustrous Red Ware, etc. Traditionally this culture also includes the OCP culture or Copper Hoard culture which flourished in Gaṅgā-Yamunā doab regions and parts of Bengal/Bihar and Orissa within a time bracket of 2650-1170 B.C.[2] This culture continued for a long period of time and in some areas it shows a parallel development with the Chalcolithic culture but it was ultimately replaced by the strong impact of iron technology. So far as West Bengal is concerned, the Archaeolegical investigations for the last two decades were mainly directed to eliminate some of the basic problems of Chalcolithic culturc like spatial

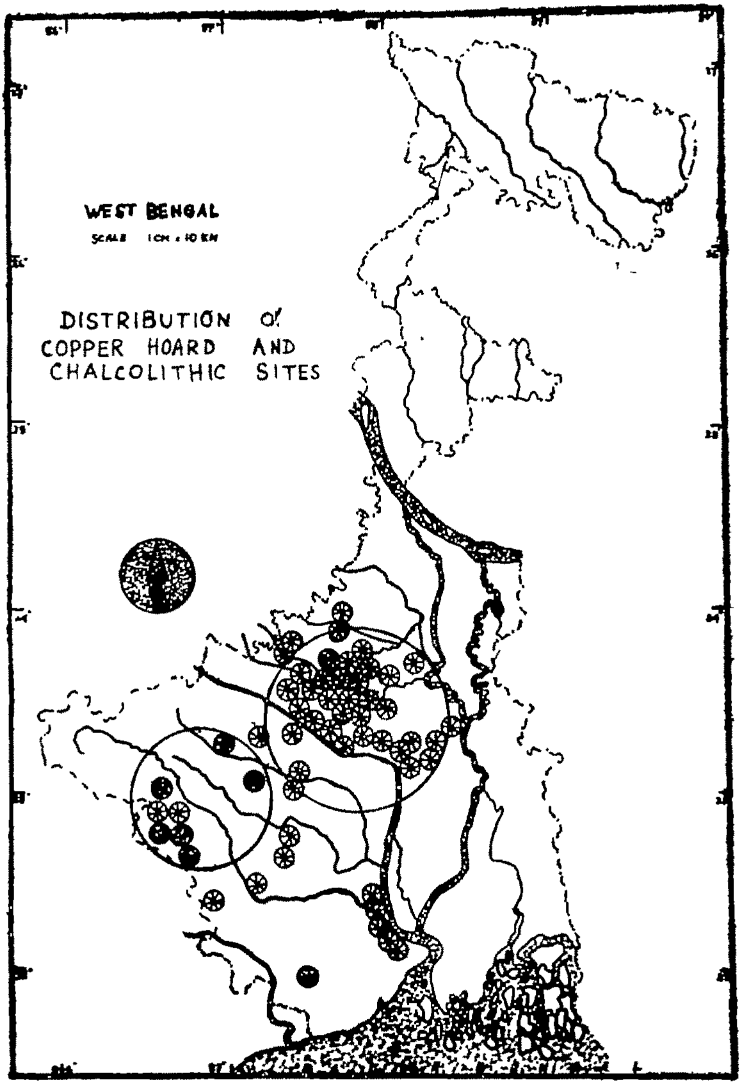
---

* Dept. of Archaeology, Calcutta University, Calcutta-700019

coverage, origin, diffusion, cultural constituents, etc. The investigations were mainly carried out both by the universities and State and central archaeological organisations in the form of extensive explorations followed by selective excavations. As a result of this scientific and methodical research. we are now in a better position about the nature, contents and spatial coverage of Chalcolithic culture in West Bengal although the question centering round its origin remains still unknown.

As regards the Copper Hoard culture in West Bengal, some sporadic but enthusiastic works have been carried out by a few scholars which, at least, help us to identify the basic tool types and the nature of habitat of the Copper-Hoard people. It is fortunate to note that scientific analysis of metal objects have just began to appear which will provide the scope for a comparative study based on metal used by the people of both the cultures. But during the same period of time, the discovery of OCP along with copper hoards in the Indo/Gangetic doab stimulates a fresh impetus for the study of the study of Copper Hoard-culture as a whole and subsequently a large number of sites were explored and excavated which have further extended the horizon of Copper Hoard culture. But still then the paucity of date and relevant cultural deposits have become a major hurdle and as such the copper hoard problem still remains an enigma. In West Bengal, the Copper Hoard and Chalcolithic people were perhaps broadly contemporary. So in the light of the above back drop, a comparative study based on distribution system, different constituent elements, origin and diffusion mechanism etc. of both the cultures have been attempted here with a view to finding out the exact position and relationship between them.

The distribution systems of both Chalcolithic and Copper Hoard cultures (Fig. 1) show that they occupy two distinct


WEST BENGAL
SCALE 1CM = 10 KM
DISTRIBUTION OF
COPPER HOARD AND
CHALCOLITHIC SITES

ecological zones. In the case of Copper Hoard culture, the people largely retained the old deltaic region in the fringe area mostly covered by the districts of Bankura, Purulia and parts of Midnapur, while in case of Chalcolithic culture, the people largely concentrated over the piedmont or present flood plain alluvium of Birbhum and Burdwan region watered by Ajay/Damodar systems. The analysis further reveals that out of eighty-two Chalcolithic sites sixty-three are situated in this region which furthur confirms that this region was the nucleous zone of Chalcolithic cultnre in West Bengal. The availabity of land as well the fertility of soil might have prompted the Chalcolithic people to largely concentrate on river-banks or near rivers for carrying out large-scale agricultural activities. Moreover, rivers could also provide the minimum amount of irrigation facilities for agriculture. On the contrary, the Copper Hoard sites are found to be present in the old deltaic region where narrow alluvium strips between hills were not sufficient for carrying out any large-scale agriculture. In West Bengal, there are altogether nine Copper Hoard sites and except Chatla and Mahishdal, all the sites are located in the tri-junction of Purulia, Bankura and north-west Midnapur where copper ores in the form of chalcopyrite, Malacite and Azurite are locally available for potential exploitation. Moreover, the famous ancient copper mine at Rakha was well within their reach for extensive exploitation. Naturally, the selection of sites were primarily guided by the availability of raw materials. The manufacture of the huge amount of Copper Hoard objects unearthed so far could not have been possibie if the source material was not readily available at hands.

Excavations at a number of Chalcolithic sites in West Bengal have brought to light many details which show that the growth of Chalcolithic culture is characterized by a semi-urban economy primarily based on large scale agricultural production. The development of an elaborate pottery system, house planning, art, bone and stone industries, burial practice and metal technology strongly justifies the above hypothesis. Pottery is the hall mark of Chalcolithic culture which comprises a variety of items including dish on stand, channel spouted bowls, basins, vases, bowls, miniature pots etc. of different shades and colour ranging from black and red, black slipped, brown, chocolate, cream slipped etc. which speak of a group of people highly specialized in pottery technology. This seems to further suggest that pottery as a professional craft happened to emerge in West Bengal under Chalcolithic culture. The pottery making not only involves a higher technical knowledge in the composition and preparation of clay and subsequent lavigation but also requires considerable amount of precision in firing control specially the proeess of reduction and oxidation for making black and red ware sherds. This kind of situation could have been only possible in a settled village commnnity life with division of labour and based on aggrarian economy. Excavations have also revealed that the people used to live in modest houses having simple mud plastered floors and walls with thatched roofs of either circular or oval or rectangular shapes.[8] Among the art objects found from Chalcolithic occupation level in West Bengal, copper bangles, rings, fish-hook, beads, bone pendants, terracotta mother goddess, comb, harpoon etc. are of special interest while paintings consist mostly of geometrie abstractions. But none the less, the art objects found from Chalcolithic sites simply demonstrate an asthetic concept that had its root in the core of a well organised Chalcolithic village life. The evidence of sedentary semi-urban life is further evident from the development of distinct burial practice during Chalcolithic period which also displays a remarkable homogeniety in the distribution of burial practices and rituals of the Chalcolithic folk in West Bengal speaks of a highly orgrnised society regulated by certain norms and creeds. A large quantity of microliths comprising scrapers, blades, borers, lunates, burins, fluted cores, waste flakes etc. has been found from different Chalcolithic sites while bone objects consist of arrow heads, awls, points pins, harpoons, bangles, blades etc. which definitely speak of a rich stone and bone industries and subsequent relevance of demand and supply of such articles in the society. But in some areas, for example, Mangalkot, the stone industry is completely absent which may be due to a strong impact of iron technology right from the very beginning. The little amount of copper used by the Chalcolithic people might have been acquired either through trade or exchange.[4] But recent excavations at a number of Chalcolithic sites including Pandurajar Dhibi,[5] Hatigra,[6] Bahiri,[7] Mangalkot,[8] etc. have yielded a large number of iron specimens including arrowhead, spear head, sickle, chisel, dagger, nail, iron lumps, unidentified objects etc. from different stratigraphical positions. It shows a gradual evolution of iron technology which was invented and developed indepndently by the Chalcolithic people and the impact of this iron technology was immense as compared with the copper technology which basically remained terra incognito for bringing about any major change in the material culture. On the other hand, the iron technology was capable enough for bringing about a change not only in the subsistance economy but also in the material culture of the people which finally led to the develoment of historical period in West Bengal,

In comparison with the Chalcolithic situation, the spread and development of Copper Hoard culture in West Bengal remained to some extent isolated in time and space. Since almost all the copper hoard objects found in West Bengal are chance discovery, nothing is known about the material culture of Copper Hoard people. But excavations at a number of similar Copper Hoard sites like Hastinapnr,[9] Saipai,[10] Atranjikhera,[11] Bara,[12] Lal Quila,[13] Mitathal,[14] Noh[15] etc. have brought to light information relating to the life and culture of Copper Hoard people as a whole. The excavation at Saipai conducted by Lal and Wahal in 1970 has established the link between Copper Hoard and Ochre Coloured Pottery, a term originally coined by Lal.[16] Subsequently copper hoard objects along with OCP have been found from a number of sites including Narshipur, Jhinijhana etc. establishing further the relationship between the two. However, the excavations at Jodhpur, Lal Quila and Saipai have revealed that the people used to live in modest houses sometime measuring 4 x 3.5 m. and having floors paved with rammed potsherds. The shapes of the pottery, which is of pale red colour, consist of dish on stand, channel spouts, bowls, vases, storage jars, basins, lids, miniature pots eic. recalling its similar shapes found in the Chalcolithie culture. Paintings of black or occasonally blue colour comprising mostly prrallel bands have also been found. Stone and bone objects confine to beads and points. The habitational deposits are very thin and none of the sites has the character of a normal habitational deposits.[17] The deposit varies between. 75 to 1.50 m.[18] which indicates the extreme paucity of copper hoard materials. Ceramics show considerable Harappan influence.

But so far as West Bengal is concerned, neither any pottery nor any other associated objects have been found along with copper hoards since the copper hoard objects in West Bengal are chance discoveries. In any way, the possibility of any Harappan influence on West Bengal copper hoards is very remote since the typological variation between doab and Bengal/Bihar/Orissa region is very distinct.[19] The copper hoard objects comprising shouldered celts, double edged axes, bar celts, flat celts, rings, discs, pick-axe, semi-circular object etc. have been found in West Bengal without any archaeological context. Naturally, in the absence of other material culture the analysis will remain circumstantial.[20] In fact, the heavy and massive shouldered celt and the elongated double edged axes, so typical of West Bengal, reveal the very extravagant character of the Copper Hoard people.

The absence of pottery with copper hoard objects in West Bengal does not necessarily indicate that the pottery technology was not known to the Copper Hoard people. The non-availability of pottery is mainly due to lack of sufficient explorations and excavations. In fact, pottery was perhaps known but at the same time may not indicate a wide range of varieties generally associated with the Chalcolithic culture. Physical and micro-structure analysis of copper hoard object from West Bengal shows that the shouldered celts were made by cast in mould while chemical analysis reveals that the presence of arsenic and tin may be due to their knowledge in alloying technology. The analysis further reveals that the cooling was rapid suggesting ventilation system in the mould.[21] But in case of double edged axes which are very thin in section might have been produced from a copper sheet involving a better and higher technical knowledge in copper matallurgy, Although the copper technology has demonstraied sufficient technical evolution, it was ever associated with agricultural activities. The lacking of sophistication in the copper hoard objects may be due to instability and lack of social mobility as the society basically remained seminomadic. As a result, the copper technology remained insignificant as it could not make any major change in the material culture of the people and as such they continued to linger through time until it was put to an end by the impact of higher culture, Whereas during the same period of time, the iron technology introduced and developed by the Chalcolithic peopiet played significant role and demonstrates technological evolution as varieties of iron items appeared and some of them were definitely associated with agricultural activities. at the upper level of Chalcolithic culture. As a matter of fact, this has become instrumental for crossing the threshhold of history through a distinct transitional stage.[22]

A comparative study of material culture of both Chalcolithic and Copper Hoard people reveals that the Chalcolithic people were basically agriculturists and the physical structure of the society was regulated by a distinct socio-economic and religious order while the Copper Hoard people were semi-nomadic folk with a mixed economy of hunting, gathering and agricultural-cum pastoralism and the physical structure of the society was loosely governed by its natural environment.

Regarding the origin or genesis of Chalcolithic culture in West Bengal, many hypotheses have been made by a number of scholars who thought that its source was either central India or the Deccan Plateau or indegenous[23] Thus there are two possibilities regarding the genesis. viz. origin from outside or the genesis lies within the soil of the state. Chirand (1650 ± 100 B.C.), which seems to be a highly suggestive area for the emergence of Chalcolithic culture in eastern India, may not possibly be the hearth for the origin of Chalcolithic culture of West Bengal because the intermediate zone is still devoid of any Chalcolithic sites and naturally the route of migration remains unknown. In the context of non-availability of data in respect of a possible migration from Bihar, the second possibility seeking an indegenous origin seems to be very high. However recent excavations yielding a pre-chalcolithic stage below the Chalcolithic level have also failed to explain properly a true succession from Neolithic to

Chalcolithic stage as the material evidence represents a mixed character, In fact, the origin of Chalcolithic culture lies further west in the fringe area where pure Neolithic sites exist and both copper and iron ores are locally available, for potential exploitation.

Both Copper Hoard and Chalcolithic cultures in West Bengal had a commen origin which lies in the Neolithic culture. In fact both the cultures flourished at point of time (1500-1000 B.C.) when Bengal was passing through a transitional stage from stone age to metal age. The old deltaic region of Bankura Purulia and parts of Midnapure, where low grade iron ores in the from of hematite, limonite and laterite as well the source materials of copper like chalcopyrite, malacite and azurite are locally available for potential exploitation, may be a priorty region where this transition from stone age to metal age actually took place. In this connection the observations of Clark and Piggott are significant for understanding the problem. They suggested that "the transition...from new stone age to a copper age...could have taken place independently in more than one area where native copper and copper ores where locally present and available for potential exploitation..."[23]

Towards the close of Neolithic culture, the people might have invented the copper technology independently. But they basically remained seminomadic pastoral cum agricultural folk who moved frequently from one place to another along with their herds. During a latter stage some of the groups of this semi-nomadic tribes invented the knowledge of iron technology and quickly moved towards the east or flood plain land in search of higher productivity of agricultural produce since they knew the availability of irrigation facilities and fertility of soil in the alluvium land. The former group of semi-nomadic tribe retained their old habitat in somewhat isolated condition along with their copper technology and continued to linger through time and space until it was put to an end by the impact of higher irontechnology during historical period. The legacy of these people and their crafts are still found among the Dokra craft of these regions. But in sharp contrast, the latter group. who invented iron technology, quickly became major agricultural groups and settled permanently in a semi-urban or sedentary life. These people. towards the close of Chalcolithic culture, quickly passed into historical peoid through a distinct transitional stage. The discovery of aflat copper celt from regular excavation at Chalcolithic Mahishdal strongly suggests that there was a contact belween Copper Hoard and Chalcolithic people. Moreover, the little amount of copper objects found Chalolithic culture might have been acquired by the Chaloclithic people from Copper Hoard culture. That there was a contact base relationship between the two is further substantiated by the dish on stand, channel spouted bowl, etc. from both the cultures. To sum up, we can conclude that ethnically they belonged to the same stock of Proto-Austroloid group, but culturally they belonged to two distinct horizons.

NOTES

1 D. P. Agarwal, The Archaeology of India, Scandinavian Institute of Asian Studies Monograph Series, no 46 London, 1982

2 R. C. Gour, 'Lal Qila and O C P Problem' in Agrawal and Ghosh (ed), *Readio carbon and Indian Archaeology*, New Delhi, 1973, pp. 154-162

3 P. C. Dasgupta, *Excavation at Pandurajor Dhibi*, Calcutta, 1964

4 G. Clark and Stuart Piggott, *Prehistoric societies*, London, 1970, pp. 188-94.

5 S. De and Pranab Chattopadhyay 'Iron object from Pandurajar Dhibi; Archaeo-met ullargical studies; *Steel India*, vol 12 (1989), pp. 33-41

6 N. C. Ghosh, Arun Nag and Pranab Chattopadhyay, 'The Archaeological Background and Iron sample from Hatigra, Puratattva, Vol. XVIII, p. (1987), pp. 21-27.

7 D. K. Chakrbarty and Jamal Hasan, 'The Sequence of Bahiri District Birbhum, West Bengal', *Man and Environment*', 1982, pp. 111-149.

8 A. K. Datta, 'Chalcolithic culture in West Bengal-A study on settlement and Transition,' *Proc. of the Seminar on Historical Archaeology*; *A Dialogue Between Hisaorians and Archaeologists*, University Calcutta (in press), A. Ray and Asok Dutta, 'Chalcolithic stage at Mangalkot', *B. K. Thapar Felicitation Volume*, Delhi (in press).

9 B. B Lal, 'Excavations at Hastinapur and other Explorations in the Upper Ganga and Sutlej Basin 1850-52; New Light on the Dak Ages between the End of Harappan Culture and the Early Historic Period,' *Ancient India*, nos. 10-11 (1954-55).

10 *Indian Archaeology—A Review* (abv. *IAR*), 1970-71. pp. 33,

11 *IAR*, 1967-68, p. 45.

12 Y. D. Sharma, Copper Heards and Ochre Coloured Ware in Ganga Basin', *International Conference on Archaeology*, (Summaries) of papers) New Delhi, 1961, p. 84.

13 *IAR*, 1969-70, pp. 38-40.

14 Surajbhan, *Excavation at Mitathal and other Explorations in Sutlej-Yamuna Divide*, kurukshetra, 1975.

15 *IAR*, 1967-68 pp. 45f

16 Lal, *Loc. cit*.

17 D. P. Agarwal, *Loc, cit*.

18 *IAR*, 1970-71, p. 42.

19 A. K. Datta and Pranab Chattopadhyay, 'Copper-Hoard Culture in West Bengal—A Reappraisal in the Light of Metallagraphic and Chemical Analysis', Indian Museum Bulletin, 1986, pp. 81-87

20 *Loc. cit*

21 *Loc. cit*

22 A. K. Datta, *Loc. cit*

23 Amita Ray, 'Prehistoric Situation in West Bengal' *Eastern* Anthropologist 1978 p 543-65

S. C. Mukherjee, 'Proto-history of West Bengal' in P. C. Dasgupta (ed.)' *Exploring Bengal's Part'* Calcutta 1966

A. K. Dutta, Chalcolithic Culture in West Bengal—an appraisal of the Problem' *indian Museum Bulletin,* 1981 pp. 47-59 ; N. C. Ghosa. 'The Chalcolithic Background of West Bengal', in A. Ray, H. Sanyal and S. C. Ray (ed). *indian Studies.* Dehi 1684 P. 15-19 ; Dilip Chakraborty Prehistoric Research in India ; Perspective in Cultural history *Vara* vol. *XXIV* (1975) pp. 154-74.

CHANDCHAURA STONE INSCRIPTION, SAMVAT 1552 AND SAKA 1417

D, C. Sircar*

[In 1977, when I was exploring temple-sites in Bihar, I met Sri Mathura Mohan Chakraborty, an archaeologist cum historian of Gaya. He very kindly gave me the impression of a stone inscription lying at his possession. The block of stone bearing the epigraph was found at Chandchaura, locality in the Gaya town, Gaya District, Bihar. I submitted the impression of that epigrah, which appeared to me to be written in the Nāgarī characters, to Prof. D.C. Sircar for decipherment. In due course Prof. Sircar prepared a tentative transcript of the inscription but under certain circumstances he could not publish its edited version. The content of the inscription, which he let me know through a letter dated 26.7.78, has been published here,—D.R. Das]

It is a record of repairs done to the Viṣṇupāda temple and to the shrines of Mādhava, Nṛsiṁha and Jayanātha by Candabhāratī (called *Paramahaṁsa*) assisted by Janārdanabhāratī, both disciples of Nṛsiṁhabhāratī (himself a disciple of *Paramahaṁsa Parivrājaka* Kṛṣṇabhāratī), on behalf of their precepter, in Vikrama Saṁvat 1552 and Śaka 1417. on Jyeṣṭhaśudi 1, Sunday.

The name Chandchaura may be associated with the ascetic Chandabhāratī,

---

* Posthumous Paper.

ANKA YEAR : A STUDY ON CHRONOGRAPHY

P. K. Nayak*

Aṅka system of reckoning dates was very popular in medieval Orissa. The epigraphs of the Imperial Gaṅgas and Sūryavaṁśī Gajapatis mention their dates in Śaka era and Aṅka year. The fromer was imported to Orissa from outside whereas the latter was purely indigenous. Though much has been said on the Śaka era a systemmatic study on the origin and development of the Aṅka year, an important dating system of Orissan chronography, has not been carried out so far. An humble attempt is made here to fill this gap in our knowledge of Orissan history.

The Gaṅga power had declined and suffered a set-back from about the close of the 9th century A.D, for a century and a half. It was Vajrahastadeva V who revived the Gaṅga power with greater glory and prosperity in 1038 A.D. Immediately after his coronation, he introduced certain significant reforms in the traditions of his dynasty. He not only discontinued the Gaṅga era and introduced Śake era in its place but also started a uniqe system of dating to reckon the regnal years known as the Srāhi years or Aṅka Srāhi years in his epigraphs. He ascended the throne in 1338 A.D.[1] and is known to have ruled for 32 years till 1070 A.D.,[2] when he was succeeded by his son Rājarāja I. His latest known charter records the data in the 39 Srāhi year So the 32nd regnal year may be taken as the 39th Srāhi year which inpicates that seven numbers were omitted while reckoning the Srāhi year. It is clear from this that his system of dating is

---

* Dept. of History, Sambalpur university, Jyotivihar-768019

different from that of the ordinary regnal year which was generall used in royal charters. The word 'Srāhi' seems to have been derived from Śarat or Śaradi (in Śarat) through Prākṛt 'Srāhi' which means a year[3]. In the Telugu-Kannada region this is used in the sense of Saṁvat of year. But in Orissa, this Srāhi was known as Aṅka Srāhi or Aṅka and developed into a new mode of rckoning regnal year unknown to other parts of India. By an observation of the Gaṅga and Suryavaṁśī charters dated in Aṅka Srāhi, it is found that some pårticular numbers are not counted in reckoning the regnal years of a king. Those numbers are '1' '6', the numbers ending with '0' except '10', and the numbers ending with '6', This method has been adopted in the charters of Vajrahasta V for the calculation of his regnal years. He ruled for 39 Aṅka Srāhi years from which numbers 1, 6, 16, 20, 26, 30 and 36 were deleted and thus the Srāhi year 39 was equivalent to 32 regnal years, This peculiar system of dating gained greater popularity and was invariably used by the Sūryavaṁśī Gajapati kings who succeeded the Gaṅgas. Before Vajrahasta V, we do not find the use of this peculiar system of dating in Orissan epigraphs.

It is observed that the charters of the Sūryavaṁśī kings are dated in this system of reckoning in Aṅka years in which the numbers 1, 6, the numbers attached with the digit 6 and the numbers attached with the digit '0' excepting 10 have not been taken into account. Probably these numbers were regarded inauspicious and are not, therefore, counted. R. Subramanyam[4] has drawn the attention of the scholars to the use of an 'Aṅka Cakra' which consisted of 59 luni-solariyears. This means that the Aṅka years were not to exceed 71 (59+12) Aṅka year. None of the rulers excepting Coḍagaṅgadeva in the Gaṅga and the Suryavaṁśī dynasties are known to have ruled for 59 luni-solar years or 71 Aṅka years. So this system is applicable only to Coḍagaṅgadeva who, however, did not follow the principle as is evidenced by his charters.

Vajrahasta V, no doubt, initiated the Aṅka system of reckoning but after him it fell into disuse. It is known that Rājarāja, I, the son and the successor of Vajrahasta V, used the Śaka era but did not follow the Aṅka system of dating. The Aṅka Srāhi has not been found used in a single charter of Rājarāja I. Anantavarman Coḍagaṅgadeva succeeded his father Rājarāja I in 1077 A.D. and his coronation took place in Śaka 999 (*Sakābde navarandhragraha gaṇa gaṇite*) on 17 February 1078 A,D.[5] His last known charter records the date as 72 Aṅka Srāhi. His son Kāmārṇava II was consecrated in the Śaka year 1069 (Nandartu Vyomacandra Pramita), i,e. 1147 A.D.[6] He ruled from 1077 A.D. to 1147 A.D., i.e. for 70 years. So the 70th year of his reign coincides with the 72nd Aṅka Srāhi years in place of 84.[7] From his charters we find that the sixth regnal year has been recorded as the 8th Aṅka Srāhi which indicates that the numbers 1 and 6 have been omitted following the method of Aṅka system. But this method was not followed in his subsequent years. His son Kāmārṇava II ruled for 10 years, The last known charter of him is dated in Aṅkasrāhi 11. Here the method was not followed strictly. Rāghavadeva, the brother and successor of Kāmārṇava II, ascended the throne in 1156 A.D. and ruled for 15 years upto 1170 A.D.[8] The last known date found in his inscription is Aṅka Srāhi 18.[9] Here the numbers 1, 6 and 16 have not been counted and the Aṅka system has been followed. After the death of Rāghavadeva his brother Rājarāja II ascended the throne in 1070-71 A.D.[10] Although Rājarāja II ruled for 20 years upto 1190 A.D. his Srāhi years are known to have continued up to 27 in place of 30. This shows that the calculation of Srāhi years of Rājarāja II was deviated from the original principle. In the year 1190 A,D. Anaṅgabhīma II, the brother of Rājarāja II, succeeded to the throne, as the latter was issueless.[11] He ruled for about 9 years and was succeeded by his son Rājarāja III in 1191 A.D.[12] The last know Aṅka years of Rājarāja II and Anaṅgabhīma II, recorded in their charters are 25th Aṅka and 10th Aṅka respectively whereas they ruled for 20 years and 9 years respectively. This suggests that the Aṅka system was not adopted by them rigidly. Rājarāja III succeeded to the throne after his father Anaṅgabhīma II. He had ruled for 13 years. His last known copper plate is dated in the 17 Aṅka Srāhi year. This indicates that he had omitted certain numbers. But the numbers which were omitted in the calculation of his Aṅkas can not be determined with certainty.

Anaṅgabhīma III, son and successor of Rājarāja III, had a period of reign for 27 years.[13] The epigraphs reveal that he was on the throne upto his Aṅka year 33. The regnal year 27 synchronises the Aṅka year 33. This shows that six numbers have not been counted while reckoning years of his rule in Aṅka system. Here the numbers 1, 6, 16, 20, 26, 30 have been deleted. During the time of his son Narasiṁha I, one more number is seen omitted. Narasiṁha I, ruled for 26 years[14] and upto his 33rd Aṅka years. Seven numbers are found omitted here while, according to the rule of the Aṅka system, six numbers should have been omitted. Very likely Bhānudeva I followed the Aṅka years, according to the principle. His actual reign period is 14 years[15] but in Aṅka system it is calculated as 17. The numbers, 1, 6 and 16 have not been taken into account. His son Narasiṁha II has also adopted the Aṅka system according to the rule, We know from the inscriptions that his last known Aṅka year is 38 and he reigned for 31 years,[16] Though we do not get sufficient number of inscriptions to show the adoption of Aṅka years chronologically, it is presumed that he might have omitted the seven numbers 1, 6, 16, 20, 26, 30 and 36.

Bhānudeva II and his son Narasiṁhadeva III maintained the rules formulated for the reckoning of the Aṅka years. The former ruled for 20 years, the last year of which corresponds to his 24th Aṅka year[17] while the latter had a period of reign of 25 years or upto his 31 Aṅka year.[18] Perhaps both the rulers have omitted the required numbers in counting their Aṅkas. But a discrepancy of one year is found in the calculation of the Aṅka years of the two succeeding rulers Bhānudeva III and Narasiṁha IV. Bhānudeva III ruled upto 32 Aṅka year whereas he ruled for 26 years[19] and Narasiṁhadeva IV reigned upto 48 Aṅka year whereas his actual period of rule is 36 years.[20] In both the cases we find one more year is omitted. Bhānudeva IV, the last ruler of the Gaṅga dynasty ascended the throne in 1413-1414 A.D. and ruled upto 1435 A.D. We find as many as ten epigraphs which mention the name of Bhānudeva IV or Niśśāṅka Bhānu.[21] Out of which only one inscription is known to have recorded the Aṅka year.[22] The rest nine mention the date in the Śaka year. The Aṅka year here is not associated with the Śaka year. So it is difficult to say whether Bhānudeva IV followed the Aṅka system as per the rule.

On the whole, it may be surmised that the system, introduced and adopted by Vajrahasta V, was not followed with sincerity and rigidity by his Gaṅga sneeessyrs. Probably it was not regarded as a standard reckoning till then.

It was during the rule of Suryavaṁśī rulers that it gained popularity and was adopted by maintaining the proper rule with all rigidity.

The Gaṅga records are silent about the initial day from which the Aṅka year starts. S.N. Rajguru holds that the Aṅka years were counted from the day, Bhādrapada śukla dvādaśī. But this statement cannot be taken as conclusive due to the lack of evidence so far as the Gaṅga epigraphs are concerned.

Bhādrapada śukla dvādaśī is regarded as auspicious as Lord Viṣṇu was born on this day as Lord Vāmana. The Gaṅga rulers prior to Coḍagaṅgadeva, were Śaivas and devotees of Gokarṇeśvara. Vajrahasta V who introduced this system was a Śaiva. So it seems improbable that he might have taken a day auspicious for the Vaiṣṇavas as the beginning day of the year. It appears that the day of coronation was counted as the initial day of the Aṅka year in respect of each of the Gaṅga rulers.

From the time of the Sūryavaṁśī Gajapatis, the reckoning of Aṅka years underwent a remarkable change. After this the Aṅka year began to be counted from a particular *tithi* in place of the coronation dates of the rulers. Thus as in the case of the established Saṁvats, it was given an initial date which came to be regarded as the new year day by the people of Orissa. The initial day can be tentatively ascertained by analysing two inscriptions belonging to the 7th Aṅka of Gajapati Puruṣottamadeva.[23] One of these inscriptions is dated in the 7th Aṅka, Śaka 1392, Āśvina Śu 1 Maṅgalavāra and the other is dated in the 7th Aṅka, Śaka 1393, Kakaḍā, di 5, Guruvāre. The former is recorded in the luni-solar system whereas in the latter the solar system has been followed. From these two inscriptions it is clear that the Śaka year and the Aṅka were never cuncurrent because the 7th Aṅka year contains two Śaka years, i.e. Śaka 1392 and 1393. So it is certain that Caitra Śudi 1, the initial day of Śaka era, was not the beginning day of the Aṅka year. Secondly, it is evident from these epigraphs that one Aṅka year was current from Āśvina Amāvāsyā of Śaka 1392 to Kakaḍā, i.e. Śrāvaṇa Vadi 12 of Śaka 1393. So we can not place the initial day of the Aṅka year in between these two dates. The initial day of the Aṅka year, therefore, lies between Śrāvaṇa Vsdi 12 and Āśvina Amavāsyā, i.e. within a period of two months. The most sacred *tithi* during this period is Bhādra śukla dvādaśī which is regarded by the Hindus as the birth day of Lord Viṣṇu in his Vāmana incarnation.

The Gajapatis were devout Vaiṣṇavas and it is quite in fitness of things that they chose this day as the beginning day of the Aṅka year. Kapilendradeva, the founder of the Sūryavaṁśī rule in Orissa, ascended the throne on Kakaḍā 2, Śukla Caturthī, Śaka 1357 (4th day of the bright fortnight of the month of Āṣāḍha)[24] i.e. the 29th June, 1435 A.D. At that time the King of Orissa, Bhānudeva IV, was away from the capital and was engaged in warfare in South India for the security of the Orissan empire. Kapilendradeva had seized the throne by a coup taking advantage of the absence of King Bhānudeva, On getting the news Bhānudeva hastened back to the capital to deal with the usurper. But he was defeated by Kapilendra and was forced to retreat to Guḍārikaṭaka. It is only after this victory that the rebel-king Kapilendra became the real king of Orissa. He celeberated his coronation after that on a holiday which, as observed before, took place on the 12th day of the bright half of the month of Bhādrapāda, i.e. the 6th September, 1435 A.D. From the date of his consecration, he is known to have inaugurated an era named Kapilāvda which is used in Orissan almanacs till today. This day served as the initial day of both the Kapila era and the Aṅka year of Kapilendradeva. The brief period of about two months from Āṣāḍha Śukla Caturthī of Śaka 1357, the date of his usurpation, to Bhādrapada Śukla Dvādaśī of Śaka 1357, the date of his real coronation, was regarded as his first regnal year or 2nd Anka year. His 3rd Aṅka year was counted from Bhādra Śukla Dvādaśī of Śaka 1357, i.e. 6th September, 1435 A.D., and ended in the Bhādra Śukla Ekādaśī of the year 1436 A.D. Though the reckoning in Kapilāvda fell into disuse during the rule of his successors, the dating in Aṅka year was continued by them and the initial day of the Kapila era was retained as the initial day of the Anka year. Thus the day Bhādra Śudi 12 took the shape of the new year day. A notable feature of this Aṅka system of reckoning is that a king, if consecrated a few days before Bhādra Sudi 12, his 2nd Aṅka year had to be counted from the date of his accession to the 12th day of the bright half of the month of Bhādrapada and after that his 3rd Aṅka year was reckoned. As for instance, if a king ascended the throne in Śrāvaṇa, the period from Śrāvaṇa upto Bhādra Śukla Dvādaśī was to be his 2nd Aṅka year and Bhādra Śudi 12 of the same year the commencing date of his 3rd Aṅka year. Thus at times, a single lunar year could accommodate the last Aṅka year of the deceased king and the 2nd and the 3rd Aṅka of his successor.

About a hundred inscriptions of Sūryavaṁśī period have so far been brought to light. Most of those inscriptions are found dated in Aṅka years and some contain Śaka year, Jovian cyclic year, month, week day and *tithi* in addition to the Aṅka year. The last known inscription of Kapilendradeva is dated in 41 Aṅka year, 1388 Śaka year,[25] Dhanu Śu di 7, which corresponds to the 14th December of 1466 A.D. Puruṣottamadeva's earliest known date is 2nd Aṅka, Mīna Śu 15 Sunday which synchronises the 20th March, 1467 A.D.[26] So Kapilendra might have died sometime before March, 1467 because he annointed Puruṣottama on the bank of the river Kṛṣṇā shortly before his death. We get about thirty in scriptions of the time of Puruṣottamadeva. His last known date is obtained from the Srikurman Inscription which is recorded in the 38th Aṅka year, Meṣa Śu 1 (3rd April 1497 A.D.).[27] Pratāparudra, son and successor of Puruṣottamadeva, ascended the throne in 1497 A.D., according to the Jagannath temple inscription of Puri, which mentions the date 4th Aṅka, Kakaḍā Śu 10. The date falls on the 17th July 1499 A.D. According to calculation, the commercing and terminal dates of the 4th, 3rd and 2nd Aṅka of Pratāprudra are respectively the 30th August 1498 A.D. and 20th August, 1499 A.D., the 11th August 1497 and 30th August 1498 and the 22nd August 1496 and 11th August 1497. As his first regnal year is his 2nd Aṅka year and his father was ruling atleast upto the 3rd April 1497, he might have ascended the thronesometime between April 3 and August 11. 1497 A.D. The Kurmeśvarainscription.[28] dated in his 41st Aṅka year, proves that he was on the throne upto 1530 A.D. (1497 A,D.+33 years reign). M.M. Chakravarty while editing an inscription of *Śrī* Pratāpadeva *Mhārājā*, found in the Jagannātha temple, Puri, fiixed the death of Pratāparudra in 1539-1540 A.D.[29] On the basis of the same inscription, which is dated in the 4th Aṅkā Bichhā Śukla Tṛtīyā, he identified this king with Govinda Vidyādhara of the Bhoi dynasty and calculated the details of the date as the 30th October, 1543 A.D., according to which the accession of Govinda Vidyādhara fell in 1541-42 A.D. As Kaluā an Kakhāruādeva, the sons of Pratāparudra, are known to have ruled for about two years, Chakravarty fixed the last date of Pratāparudra in 1539-40 AD. RD. Banerji,[30] supporting Chakravarty, wrote that Pratāparudradeva died either in late 1539 or early in 1540. P, Mukherji[31] also held that the above mentioned inscription of Pratāpadeva belonged to Govinda Vidyādhara. He took into account seven inscriptions of the reign of Govinda Vidādhara, one in the Jagannātha temple and six in the temple of Narasiṁha at Simbachalam. Thus he included the Jagannātha temple inscription of *Śrī* Pratāpadeva with the inscription of Govinda Vidyādhara. But a perusal of that inscription will prove that Mukherji's contention is not correct. The beginning portion of the inscription runs as follows.

> *L.1—Śrī Vīra Gajapati Gaudesvara navakotī karṇāta Kalavaragesara Śrīmān mahārājādhī (rāja Śrī)*
>
> *L.2—Govinda devarājā Śrīmān Vira vara Pratṇpa Śrī Śrī Pratāpadeva mahārājānkara vi (je rājye samasta)*

L 3—4 Aṅka srāhi Bichā Śukla tṛtīya maṅgalavāre

The text shows that the inscriptions belong to the 4th Aṅka of *Śrī* Pratāpadevamahārājā son of Govindadeva and not of Govindavidyādhara.

The 4th Aṅka year of Pratāpadeva with its details Bichā Sukla Tṛtīyā and Maṅgalavāra corresponds to the following dates during the period from 1540 to 1599 A.D.

1. The 15th November, 1599 A.D.
2. The 11th November, 1550 A.D.
3. The 27th November, 1554 A.D.

On the basis of these three dates, three sets of Aṅka year of Pratapadeva can be obtained taking Bhādrapada Śudi 12 as the beginning day :

Set I

4th Aṅka year from 27.8.1547 A.D: to 16.8.1548 A.D.
3rd Aṅka year from 7,9,1546 A,D. to 27,8,1548 A.D.
2nd Aṅka year from 19,8,1545 A,D. to 7,9,1546 A.D.

Set II

4th Aṅka from 23,8,1550 A,D. to 11,9, 1551 A.D.
3rd Aṅka from 3,9,1549 A,D. to 23,8,1550 A.D.
2nd Aṅka from 16,8,1541 A,D. to 3,9,1549 A.D.

Set III

4th Aṅka from 8,9,1554 A,D. to 29,8,1555 A.D.
3rd Aṅka from 20,8,1953 A,D. to 8,9, 1554 A.D.
2nd Aṅka from.31,8,1552 A,D. to 20,8,1553 A.D.

Thus the last year of Govinda Vidyadhara and the accession of his son Cakrapratapa or Pratapadeva would fall in one of the three following dates.

1. 19,8,1545 A,D, to 7,9,1545 A.D.
2. 16,8,1548 A,D, to 3,9,1549 A.D.
3. 31,8,1552 A,D, to 20,8,1553 A.D.

R,P, Chandra[32] after studying different versions of the manuscripts of *Madalapañjī*, holds that Govinda Vidyādhara died in Śaka 1467 (1545 A.D.) and was succeeded by his son Cakrapratāpadeva. This date fits with the astronomical details supplied by the inscription of Pratāpadeva. The year 1545 may, therefore, be taken as the year of expiry of Govinda Vidyādhara and succession of his son to the throne.

We are getting five Oriya inscriptions belonging to Govinda Vidyādhara in the temple of Lakṣmi-Nṛsiṁha at Simhachalam. Although these inscriptions supply sufficient astronomical details, they do not mention any era.

The earliest known date of Govinda Vidvādhara, referred to in his epigraph, is the 3rd Aṅka, Kanyā, Di 8, Śu 13, Budhavāra. These astronomical date correspond to the 8th September 1535 A.D. The 3rd Aṅka year was current in 8.9.1535 A.D. This means that the 3rd Aṅka year started from 20.8.1554 A.D. So the 2nd Aṅka year would fall between 31.8.1533 A.D. and 20.8.1534 A D. As Pratāpadeva ascended the throne in 1545 A.D., Govinda Vidyādhara might have ruled from 1533 A.D. to 1545 A.D., i.e. for about 12 years. But according to some copies of the *Mādalāpañjī*, Govindadeva and a rule for 7 years from Śaka 1456 to 1463.[33] But as this does not satisfy to the astronomical details much credence should not be attached to the dates furnished by the *Mādalāpañjī*.

During the reign of Govinda Vidyādhara, Quli Qutb Shah of Golkonda invaded Rajahmundry. Govinda Vidyādhara had to stay in the South for a period of about eighteen months. Sewel[34] states that the fight took place in 1546 A.D. The year 1540 corresponds to the 9th Aṅka year or 7th regnal year of Govinda Vidyādhara. The *Mādalapañjī*, however, states that he proceeded towards the South during his 7th Aṅka year. The Aṅka year here is probably mistaken for regnal year. He was in the South in his 8th Aṅka as evidenced by his Simhachalam inscription dated in 11.7.1539. During the absence of Govinda Vidyādhara, Raghubhañja Choṭrāi rebelled against him. So he kept Danāi Vidyādhara in charge of the Southern principalities and returned to the capital to supress the rebellion. The rebellion was suppressed. But he could not resume the fight against Quly Qutb Shah due to the out-break of the famine in 1540. The famine spread over the east coast of Red Sea and affected tremendously the Coromondel area and the eastern belt of the coastal area.[35] Govinda Vidyādhara had to sue for peace with the Sultan of Golkonda and ceded the portion of Kṛṣṇā-Godāvarī delta to him. These events also agree to the date fixed by us for Govinda Vidyādhara. Thus the accession of Govinda Vidyādhara was taken place after August 1533 A.D. Before him Kaluā and Kakhāruādeva had ruled for 1 year and 9 months. So the last year of Pratāprudradeva's rule would be 1532 A.D. The Bengali Biographers of Śrī Caitanya state that Pratāpaudra outlived Caitanya who died in 1533 A.D. This view is, however, not tenable so far as the date is concerned. Govindadeva ruled for 12 years upto 1545 A.D. and was succeeded by Cakrapratāpa who ruled for 11 years, i.e. from 1545 to 1556 A.D. After him Narasiṁha Jenā got the throne and ruled for one year. He was murdered and the kingship passed on to Raghurāma Jenā. We do not find any epigraphs, metalic or lithic, of these rulers. The short period of rule of these two brothers was ended with the accession of Mukundadeva, the last independent and powerful king of Orissa in 1559 A.D. So far, three inscriptions[36] two at Simhachalm and one at Draksharama, of Mukundadeva have been discovered. Among these three, the last one is dated in 10th Aṅka year, Makara di 5, Kṛ 7, Guruvāra. This date corresponds to Thursday, the 2nd January, 1567 A.D. If the 10th Aṅka was current during this year, it must have started on the 27th August 1566 A.D., the Bhādra Śudi 12 and lasted upto the 16th August 1567 A.D. Rangacharya in his work refers to two grants of Mukundadeva issued in the 3rd Aṅka. The first one was made in Caitra, Vahula, 5th *tithi.*[37] The second was issued on Caitra, Suddha, 15th *tithi.*[38] The year of both the grant is same, i.e. the 3rd Aṅka year in Baudri Saṁvatsara (jovian cyclic year), The dates of both these grants correspond to the 16th March, 1560 A D. and the 10th April, 1560 A.D. respectively. In this connection, the Pālaka Pañjikā[39] may be cited for the date of accession of Mukundadeva. The relevant verse runs as :

Śakavda Pakṣanāgābdhi Sudhaṁsu Pariśośitah
Śrīmān Makunda nṛpatergatābdah Parikirttīta.

It reveals that the first regnal year of Mukundadeva passed in Śaka year 1482 (*Pakṣa*=**2**, *nāga*=8, *abdhi*=4, *Sudhāṁśu* 1), i.e. 1560 A.D. The first regnal year is the 2nd Aṅka year in the system of Aṅka reckoning. So the second Aṅka has passed in 1560 A.D., i.e. before 1. 9. 1560 A.D. His second Aṅka year, therefore, would fall in between 14. 8. 1559 A.D, and 1,9, 1560 A.D. His 3rd Aṅka year started after 1.9.1560 A.D. However, according to Rangacharya, the 3rd Aṅka year fell in between 14.8.1559 A.D. and 1 9.1560 and thus the 10th Aṅka would commence on 7.9.1565 A.D. But according to the Draksarama inscription,[40] the 10th Aṅka fell in a date which corresponds to 2.1.1567 A.D. Further, the Simhachalam inscrption 41 is dated in the 11th Aṅka Kakaḍā di 12, corresponding to Wednesday the 21st July 1568. So the 11th Aṅka must have been started from the initial day which took place immediately before the 21st July 1568 A.D. and after 16.8,1567 A.D. Thus the 10th and 11th Aṅka years were quite in conformity with our calculared dates. The 10th Aṅka lasted from 27.8.1566 AD to 16.8.1567 A.D. and the Aṅka from 16.8.1567 A.D. to 3.9.1568 A.D.

If the 3rd Aṅka year be taken to be current from 14.8.1559

A.D. to 1.9.1560 A.D. it will not conform to the dates, obtained from the inscriptional evidence. Rangacharya noticed those two grants dated in the 3rd regnal year in the *Local Records.*[42] Here the Aṅka year 3 might have been a mistake for the Aṅka year 2.

Thus the date of accession of Mukundadeva may be placed in the year 1559 A.D. His rule of 9 years ended in 1568 A.D.

The reckoning of regnal year in Aṅka system, which was found used from the time of Vijrahasta V, was continued by the Sūryavaṁśī, the Bhoi and the Cālukya rulers systematically and rigidly. This reckoning was adopted by the Gajapatis of Khurdha after the fall of Mukundadeva and is in vogue till today among the Orissan astrologers.

NOTES

1. Danta plates of Vajrahastadeva, *CPIAP*, 1962, pp. 137 ff. Text, Lines 30, 31, & 32.

Viyad rut nidhi Saṁkhyām yāti śakābpa samdhe dina kṛti Vṛṣadhasthe Rohini the sulagne Dhanuṣi ca śita pakṣe sūryatṛetiyā yuji sakala Dharitri Rakṣitum yobhiṣiktah. (*The date corresponds to 9th April, 1038 A.D.*).

2. Matnra grant of Rājarāja, *CPIAP*, pp. 153 ff, Text Lines 46 & 47 *Śakābde Nayanābjagarbhanidhidhige Jyeṣthe ṣtami Simhakelagne Cottara phālguni Guru dine Pakṣeṣu śubhre.*

(The date corresponds to 20th May, 1070 A.D.).

3. *EI*, Vol. XXIX, p. 106

4. R. Subrahmanyam, *The Suryavamsi Gajapatis of Orissa*, 1957, p. 9.

5. S. N. Rajguru *Inscription of Orissa*, Vol. I I, pt. II. App. II-C, p. XXIV.

6 M. N. Das (ed.). *Sidelights on History and Culture of Orissa*, 1977, p. 520.

7 The aṅkacakra has not also been maintained. His anka srāhi years exceed by fifty nine luni-solar years.

8 N. K. Sahu, P. K. Mishara and J. K. Sahu (ed.), *History of Orissa*, 1979, p. 211.

9 *JASB*, 1903, p. 113 ; *JAHRS*, VII, p. 184-85 ; *OHRJ*, Vol. V, 3 & 4, p. 182.

10 S. N. Rajguru, *Inscription of Orissa*, Vol. III, Pt. II, p. 367, n. 2.

11 Sahu *et al*, *op. cit*., p. 211 ; *OHRJ*, Vol. V, No. 1, p. 99.

12 Sahu *et al*., *op. cit* p 212 ; *OHRJ*, vol, V, No. 1, p. 99.

13 Anaṅgabhimadeva III ruled from 1211 A.D. to 1238 A.D. Sahu *et al*, *cit*, p. 213 ; *OHRJ*, vol. V, No. 1, p. 99.

14 Narasimhadeva I ruled from 1238 A. D., to 1264 A. D. Sahu *et al*, *op. cit*, p 216 ; *OHR*, vol. V, No. 1, p. 99.

15 K. C Panigrahi, *History of Orissa*, 1981, p. 172. Bhānudeva I ruled from 1264 A D. to 1278 A.D.

16 *OHRJ*, vol. V, No. 1, App. II, p. 100

17 *Loc. cit.*

18 *Loc. cit.*

19 *Loc. cit.*

20 *Loc. cit.*

21 *OHRJ*, vol. IV, No. 3 & 4, pp. 98 ff.

22 *SII*, vol. V, no. 720

23 (a) *SII* vol. V, no. 1247, *A. R. Ep*, no. 365 of 1896.
(b) *SII* vol. V, no 1153, *A. R. Ep*. no, 274 of 1896.

24 A. B. Mohanty, *Madala Panji*, Prachi Samiti, Cuttack, 1940. Oriya Edition, p. 42-43.

25. *JASB*, vol. LXII, 1893, p. 96.

26. *SII*, vol. VI, no. 703 ; *A. R. Ep*, no. 237-D of 1399,

27 *SII*, vol. VI, no. 1162 : *A R. Ep*, no. 336-XVIII of 1899.

28 *SII*, vol. v, no. 1161, *A. R. Fp*, no 280-A of 1896.

29 *JASB*, vol. LXII, 1893, p. 101 f.

30. R. D. Banerji, *History of Orissa*, vol. 1, 1929, p. 338.

31 P. Mukherjee, *The History of the Gajapati Kings of Orissa*, 1953, p. 108 f,

32 *JBORS*, XIII, pp. 10-27.

33 A. B. Mohanty, *op. cit*., p. 58.

34 *Historical Inscriptions of South India*, p. 248 f.

35 K. G. Jayane, *Vasco de Gama and His Successors*, p. 135

36 (a) Simhachalam-M. E. R. 245 (A) of 1899, *M.E.R.* 363 of 1899
(b) Draksharama-*M. E. R.* 335 of 1919.

37 Rangacharya. Last Vol. 1, no. 266.

38 *Ibid*, Vol, 1, no. 427.

39 Pālaka Pañjikā, a palm leaf manuscript compiled by Dhanañjaya Ācārya in Śaka 1655, is preserved in the Orissa State Museum Bhubaneswar.

40 *M. E. R.* 335 of 1919.

41 *SII* vol. VI, no 1146.

42 *Local Records*, vol. 59, pp. 218-220.

A NOTE ON THE ĀGAMA LITERATURE IN CENTRAL ASIA AND CHINA

Kshanika Saha *

Among the finds of manuscripts in Central Asia the fragments of the Āgamas so far discovered are most probably the oldest. Very likely these Āgamas were carried to Central Asia by monks and traders hailing from Gandhāra and Kaśmīra. It was during Kaniṣka's reign that the popularity of the Sarvāstivādins reached its climax in the north and north-western parts of India. They made their principal centres at Mathurā and other places where they must have compiled the Buddhavacanas in Sanskrit and named them Āgamas instead of Nikāyas, adopted by the orthodox schools of Buddhism. They divided their Āgamas like the Nikāyas into five sections Dīrgha Madhyama, Saṁyukta, Ekottara, and Kṣudraka. But the selection of sūtras in the different Āgamas was made by them according to their own choice. They also varied, modified and enlarged the sūtras in their own way. Hence the Āgamas are not exactly the replicas of the Pali Nikāyas. Unfortunately none of the Sanskrit Āgamas have been found in India or Nepal. In the Chinese translations, we find a complete set of Āgamas which very probably were made from the Sanskrit Āgamas of the Sarvāstivādins or the Dharmaguptikas, the followers of which had been to Central Asia to establish their centres there.

The Japanese scholars Nanjio,[1] Akanuma[2] and Anesaki[3] have made an exhaustive and analytical studies of the Āgamas and the Nikāyas. They have mentioned that there are four Āgamas :

---

* Dept of Ancient Indian History & Culture. Calcutta University, Calcutta-700019

1. Dīrghāgama (Ta-ö-han)
2. Madhyamāgama (Chong-ö-han)
3. Saṁyuktāgama (Tsa-ö-han)
4. Ekottarāgama (Tsan-ö-han)

In Chinese Dīrghāgama there are 30 sūtras against 34 in Pali. Out of 30 sūtras, 27 sūtras bear the same as those in Pali, three sūtras are wanting in Pali. These sūtras are replaced in Chinese by Ekottara, Trirāsi and Lokadhātu. Again the Pali sūtras which are wanting in Chinese collection are No 6 Mahali, No. 7 Jāliya and No. 10 Subha and No 32 Aṭānāṭiya.

The Chinese Madhyamāgama contains 222 sūtras as against 152 of the Pali Majjhimanikāya. Many sūtras of the Pali Dīgha, Aṅguttara and Samyuktanikāyas aretraceable in Chinese Madhyamāgama. Among the 222 sūtras in Chinese Madhyamāgama the following different sūtras of the Pali Nikāyasare traceable, viz. 99 of Majjhima, 75 of Aṅguttara, 9 Dīgha, 8 of Samyutta, 5 of Khuddhaka and the remaining 23 sūtras could not be identifid with any sūtras of Pali. Again out of 152 Pali sūtras of Majjhimanikāya 98 sūtras are traceable in Chinese Madhyamāgama.

The Chinese Samyutāgama is divided into 50 Vaggas containing 1502 sūtras while in Pali the number of Vaggas is only 5 containing as many as 2889 sūtras. Most of the Pali sūtras are found in a scattered way in the 50 sections of the Chinese Āgamas. Anesaki and Akanuma have traced several sūtras common in the Pali and Chinese versions. Anesaki has pointed out that the beginning of the different facsiculi have sub-headings of the Pali Saṁyutianikāya have been preserved These are (I) Nidāna, (II) Sāvaka (III) Magga

The Chinese Ekottarāgāma was first translated by Dharmanandin who hailed from Tukhara went Chan an in 384 A.D. With the assistance of two Chinese monks he completed the translation. In 388 A.D. a monk hailing from Kubha called Sanghadeva revised the translation. Ekottarāgāma in Chinese is divided into 51 sections while the Aṅguttara Nikāya in Pali is divided into eleven nipātas. In the Chinese Ekottarāgama are found several sūtras of the Majjhima, Dīgha, Saṁyukta besides Aṅguttaranikāya. Anesaki has traced a large number of Pali sūtras in the Chinese version. Below some of them by way of illustration are mentioned here :

I. Dīgha—No. 2-Samañaphala sūtra, No 14 Mahāpadāna
II. Majjhima—No. 10. Satipaṭṭhāna, No. 7. Vatthupama, No. 62 Rāhulavāda, No. 83. Maknadeva, No. 86 Aṅgulimala, No. 143 Anāthapiṇḍikadeva
III. Samyutta—22. 1 Nakula, 21. 8 Nanda
IV. Itivuttaka—64-65, 44
V. Theragāthā.

Anesaki thinks that the source of the Chinese version was a compilation not of the Sarvāstivādins but of a subsect of the Mahāsaṅghikas who compiled their Tripiṭaka in a manner different from their rival sects, the Theravāda group. No fragment of the Ekottarāgāma has been discovered in Central Asia but according to the Chinese tradition, the first translator of this Āgama was a Tokharian monk, who must have utilised the source which was in his possession. It is, therefore, likely that in Central Asia existed the original Āgamas of the Chinese version.

NOTES

1. B. Nanjio, A Catalogue of the Chinese Translations of the Buddhist Tripifalla, 1882, London, Nos, 542-45, 610, 611, 739 and 783

2. A Kanuma, The Componative Catalogue of Chinese Āgamas and Pali Nikāyas, London, 1913.

3. Anesaki, Four Buddhist Agamas in Chinese, Asiatic Society of Japan, (1908), pp. 77, 140.

SOCIO-ECONOMIC TERMS IN THE KHAROSTI INSCRIPTIONS OF THE INDIAN SUBCONTINENT

B. N. Mukherjee*

A

One of the major scripts of ancient India is called Kharostī or Kharoṣṭī (but not Kharosṭhī). 1 Though created perhaps during the age of the Achaememids, major documents in Kharoṣṭi are available only from the age of the Mauryas. The script was employed for writing North-Western or Gandhari Prakrit.

The main zone of the use of this script was the north-western section of the Indian subcontinent (now divided into Pakistan and parts of Kasmir, the Panjab, Himachal Pradesh and Haryana of India)and Eastern Afghanisthan to the south-east of the Hindu-Kush. In this territory the script was in use up to c. 4th century A. D.[2] After the Achaemenids, and the Mauryas, the main political authorities of the region concerned were the Indo-Greeks, Scytho-Parthians, Kusāṇas and post-Kusāṇa rulers (including the Sasanids).

The other zone in the subcontinent where the script was in regular use for a few centuries (c. 1st-4th or 5th century A.D.) is the territory now in West Bengal. Recent discoveries, particularly in the area of Chandraketugarh in the district of 24 Parganas (North), have yielded this information and also enough data about the employment of a mixed script, consisting of Brāhmī and Kharoṣṭī letters, in about the same period.[3]

A few Kharoṣṭī epigraphs have been reported from the Mathura area in U. P. and a plaque displaying one inscription in Kharoṣṭī and another in Brāhmī has been urnearthed at Kumrahar.[4] But these sporadic finds do not prove the regular employment of Kharoṣṭi in these localities.

---

* Dept. of Ancient Indian History & Culture, Calcutta University, Calcutta-700019

Kharoṣṭī also became a vehicle for spreading Indian culture in Central Asia. Archaeological discoveries in several places in Chinese and Soviet Central Asia have revealed its use in some localities at different times in the first millennium A.D.[5]

In our paper we are concerned with the Kharoṣṭī inscriptions found in the Indian subontinent. Since the number of socio-economie terms occurring in these records is very small, we propose to include also certain words of social or economic implications furnished by them within the ambit of our discussion.

B

The existence of caste system in *inter alia* the north-western section of the Maurya empire is indicated by the Kharoṣṭī version of RE XIII of Aśoka (c.272-236 B. C) at Mansehra and also a few Brāhmī recensious of the same edict. According to it, there was no *janapada* (an inhabited country) in the empire excepting that of the Yonas, where the *nikāyas* or classes of the Brāhmaṇas and the Śramaṇas did not exist.[6] In the Maurya age the term *Yona* or *Yavana* denoted a person of Greek origin or a Greek or non-Greek inhabitant of the Yona province,[7] identifiable with Arachosia or the Kandahar region in S.E. Afghanistan.[8] Different versions of RE V, including the Kharoṣṭī editions at Shahbazgarhi and Mansehra, refer to the work of the Dharmamahāmātras among the Brāhmaṇas, the Ibhyas (opulent people or people having many attendants or elephants and so perhaps indicating the ruling or kingly class or rājanya), Bhatas or Bhṛtyas ("servants", implying probably the Śūdras) and Ayas or Āryas ("Masters", or in this context, the Vaiśyas having servants) as well as anāthas (poor people" or "people without masters") and vṛddhas (or aged men).[9] Here we have terms implying a system of caste based primarily on economic or politico-economic status. We do not know whether the poor or unemployed Kṣatriyas or Vaiśyas are indicated by the expression *anātha* or whether due to economic straits they were reduced to the position or Bhṛtyas or Śūdras. The division of the subjects of the empire into socio-economic classes is also suggested by referring to them as mahat as well as udāra (udāra, udāla) i e. man of high or exalted rank, and Khudaka or Kṣudraka, i.e. a lowly placed man, in MEI, written in the Brāhmī script.[10] Such terms also imply determination of social status on the basis of power and wealth since the words *mahat* and *kṣudra* also allude respectively to the powerful or rich and to the poor.[11] Outside the religious life the society was class as well as caste based.

All versions of RE I, including those at Shahbazgarhi and Mansehra, refer to *samāja* or "congregation of men," Accordig to the *Dīghanikāya*, such an assembly of men witnessed entertainment, contests and martial shows of various types The *Arthasāstra* recommends for the king's participation in a samāja, and allows people to consume alchoholic beverage on such an occasion. RE I implies that animals were killed (apparently for preparation of food) while a samāja was being held. The Hathigumpha inscription of Khāravela refersto *utsava* and *samāja* organisedby him to exhilarate the citizens of his capital. Thus samāja, was a Social gathering, generally encouraged by the state, and an occasion for earning by entertainers and venders.[12] Thus the term *samāja* has a socio-economic import.

Aśoka himself, however, found many faults with samāja, excepting a particular type of it,[13] which probably denoted an assembly for preaching dhamma.

Aśokan edicts refer to measurements of distance. These were obviously of interest to people, including traders who had to take cognizance of distance while transporting articles of commerce. While RE XIII refers to yojana, PE VII, (not known to have been inscribed in Kharosṭī) speaks of kosa (krośa). A yojana is, according to one calculation, equal to 4 krośas or about 8 or 9 miles.[14] The two Aramaic edicts, one inscribed on the Sultan Baba ridge and the other on the Sam Baba cliff in the Iamghan valley, mention a type of measurement called qśt' (qāśtā),[15] literally meaning "a bow".[16] Its exact measurement cannot be determined, but it may be compared with the term *dhanus* (literally meaning "a bow") used in the *Manusmhitā*, as a measure of length and as equal to four hastas or about 72 inches.[17]

In this connection we can draw attention of scholars to the term *krpty* (*kārapathi*), referring to a highway, in the two above-noted Aramaic edicts. The *kārapathi*, which literally means "the military road" or "lord's way" (i.e., royal road), might have been the same as the "royal road" referred to by Eratosthenes (c. 275-194 B.C), a junior contemporary of Aśoka. This road, as it appears from classical sources, was at least partly identical with the great route from Western Asia to the confines of India and thence through Taxila and several other places to Palibothra (Pāṭaliputra). This road, must have been an important artery of communication for people, including traders, as well as officials and military personnel.[18]

C

Kharosṭī inscriptions of the north-west in the post-Maurya period particularly in the Śaka-Kusāṇa (age) are mainly records of religious donations or graffiti. So they do not contain many terms of socio-economic import. However, many of such records and other types of archaeological finds indicate the presence of nonindigenous ethnic and social elements in society stratified on the basis of material power and wealth.

Beside the members of the royal family, governors (meridarkh, mahākṣatrapa, ksatrapa, etc.) and military generals (strategos, daṇḍanāyaka, mahādañanayaka, etc.), the nobility included persons called anankaios (a royal advisor or friend), Guśuraka (a judge and/or an army general and military governor), stura (< Avestan stura, meaning "strong," "great, etc ?) and gahapati.[19] Of these the gahapatis, the rich householders, had their high social status based on possession of wealth. The very high status of a gahapati is suggested by the fact that in the Zeda inscription the Kuṣāṇa king Kaniska I himself is referred to as *marjhakā* (Khotan-Śaka *malysaka* used in the sense conveyed by Sanskrit *gṛhapati*).[20] The term *gṛhapati* was considered to denote the sixth ratna (jewel) of a *chakravartin* (universal monarch), who secured hidden treasures for his master.[21] The title was attributed to Kaṇiska probably to indicate that he was rich in treasure.[22] Thus it appears that the designation for a veryhigh class of nobles in the Kuṣāṇa empire had a socio-economic bearing.[23]

A designation relating to administration of the Buddhist church, but also having financial and social implications, was *dānapati* (*horamurta* in Śaka).[24] Adānāpati or mahādānapati was in charge of receiving and utilising gifts on behalf of a monastey. The fact that sometimes high officials acted in this capacity[25] indicates the importance of this post in the socio-religious and socio-economic set up in question.

There must have been trading activities in north-western India during the Saka-Kuṣāṇa age.[26] But no Kharoṣṭī inscription directly refers to a "merchant". Among the commercially important animals horse is alluded to in a graffito at Chilas, which states that "vitaśpa (trained horse) pleases Geṁdaphara (king Gondophares I ?).[27]

The Shahdaur inscription of Śivarakṣita of the Śaka-Pahlava age records a donation consisting of 10000 kāhāpaṇas (kārṣāpaṇas,)[28] denoting either punch-marked coins or drachms.

A silver saucer found at Sirkap (Taxila) bears the Kharoṣṭī inscription *Aśpavarmasa Strategasa sa 10* (±) *1, dra 2, 02.*[29] A silver plate, yielded by a Sirkap hoard, carries the inscription, *Muṁjikṛtas* (*y*) *a sa 20, dra 1.*[30] Another dish, recoverd from the same hoard, is inscribed as *Muṁjikṛtasa sā 20* (+) *10*, dha *2.*[31] The letters *sa*, *dra* and *O* are obviously abbreviatians of *satera* (*stater*). *dramma drachma*) and *obot*. It appears that the first part of each inscription refers to the owner or donor of the object concerned and the second records its weight or price,[32] We have shown elsewhere that the inscriptions indicate price of the materials, that the stater noted here weighed theoretically 172.9 grains of silver, and that the drachma mentioned here weighed one-fourth of a stater.[33] An obol was certainly one-sixth of a drachma in weight and value.[34] The leter *dha* in one of the inscriptions may stand for *dhane* (c.f. Persian *dang*, meaning "founch part of dram").[35]

All these terms were used by people of the north-west in the Śaka-Pahlava period and the names *satera* (*stater*), and *dramma drachm*) can be related to the coins known to have been used by the people of the age.[36]

It appears from some Kharoṣṭī documents of Chinese Central Asia that from the point of vew of cultivation, land was divided into *mishi* and *akri.*[37] The latter term may stand for *akṛṣi* and may allude to a fallow or an uncultivabel land. The word *mishi* may be connected with the Śaka word *ttumasha* ("seed-field" or "large field")[38] and may be interpreted to denote a cultivated land.[39]

No such term, however, occours in the Kharoṣṭī documents of the noth-western section of the subcontinent. The Mathura lion capital inscription refers to a piece of land as *nisima*.[40] This technical expression has been related to Pāli *nissīmā*[41], denoting a land "lying just outside the limit" of a monastery proper but owned by it.[42]

It appears from the Kharoṣṭī inscription of the north-west that well (*kuo kupa*), cistern (*prave prapā*), tank (*pukariṇī puṣkariṇī*), etc.[43] were the major sources of supply of water for daily use by the people. Certain archaeological data indicate use of water from river courses and canals for irrigation.[44] Words denoting such sources of water for the use by people for various purposes may have some bearing on their socio-economic life.

D

We may now turn our attention to the inscriptions in Kharoṣṭī and in a mixed script consisting of Kharoṣṭī and Brāhmī letters, recently noticed at certain sites of West Bengal, particularly in the Chandrakturgarh area of the district of 24 Parganas (North). These are inscribed on jars, pots, seals, palques, etc. Palaeographically they are datable to the early centuries (c. 1st to 4th or 5th) of the Christian Era. Their language is basically North-Western Prākṛt (in which the Kharoṣṭī inscriptions of the north-west are written), though they betray influence of local Prākṛt and phonetics. Available data suggest that these inscriptions were issued by an influential trading community hailing form the north-west. They dealt mainly with horse and grain. They exerted influence in local politics and administration and also is socio-religious and economic life. They were strong supporters of Brahmanical cults.[45]

A Kharostī inscription on a potsherd, now in the collection of the Bhuvan Museum and Art Gallery (Calcutta), refers to a Maka (or Maga) dvija (or Brāhmaṇa). Apparently such priests of Iranian (Magi) origin came and settled in the territory concerned in pursuit of their vocation. Their economic calling determined their high social status in a foreign land.[46]

A section of the peoplc followed agaricultural pursuits. One seal inscription speaks of a certain Vimma, son of Me'erh, as a *s* (*r*)*iṭhadha* (*sītāda*), "giver of tracks of a ploughshare". He was probably a rich agriculturist employing several cultivators. The same may be said about Karaphagmā, the Karahalika, mentioned in a Kharoṣṭī Brāhmī legend on a seal now kept the Balanda Museum, Haroa (24 Parganas North). As *kara* may mean, *inter alia* "lord", if it is taken as a word of Iranian origin, the husbandman (*halika*) in question must have been the employer of a lasge number of cultivators to till a vast tract of land. The term *karhalika* may then signify a rich husbandman owning numerous plots of cultivable fields.

In connection with our discussion on agriculture, we may refer to a small black-shipped grey pot, found at Hadipur and now in the Indian Museum, Calcutta. Its hight is 9cms and the circumferance at the middle is 23 cms. It bears a Kharoṣṭī inscription near its neck. The epigraph reads *Vapaya yośa*, i. e. *Vapāya*, *Kośa*, meaning "a vessel for a sower" Its evidence indicates that some persons among the users of Kharoṣṭī were agriculturists and/or dealers in seeds. We do not know whether the land to be sown with the help of seeds filling up inside of the vessel was called *Kośa-vāpa*. At least we can guess this on the analogy of the terms *Kulya-vāpa* and *Droṇa-vāpa*, denoting measurements of land in the Gupta age. According to the data furnished in the Damodarpur inscription of the year 128 of the Gupta Era (A.D. 447-448), one Kulyavāpa of land was equal to seven and half Droṇavāpas of land.[48] The relationship between a Droṇavāpa and a Kośavāpa is not yet know. However, since the pot (*kosa*) in question can contains 71·426 gms of seeds of rice or paddy, the plot of land which could be sown with this quantity of seeds might have been known as *kośavāpa.*

A section of people became rich by trading in grain. Several clay seals or rather trade identification documents, now in the Asutosh Museum of Indian Art (Calcutta) bears *inter alia* (i) a Brāhmī inscription recording the value of the consignment of the grain concerned as 90 Kāhaṇa (Kārshpāṇa) and (ii) a Kharoṣṭī inscription referring to a *sanagivaha* (*sanakivāha*) (no. T. 4312) or do a sanaiva, a (*sanadivāya*) (no. 6). These terms refer to some numbers of the society as "old or ancient carriers" (of trade) (*sanakivāha*) or as "wealthy leaders" (*sanadivāya*)[48]

One of such leaders was called Aja, a well-known Śaka or Śaka-Pallava name.

An inscription on one side of a cube, displaying devices and legendes, refers probably to such an elderly trader as *Jetha.* In Pali literature the term *jetthaka* denotes the head of a traders' guild.[49]

On another side of the same cube we can notice a man on a couple of horse and the legend *dhesido, deśita*), "instructed" or "trained." Apparently the man was a dealer in trained horses. The same might have been the case with a person referred to in a Kharoṣṭī inscription (in the collection of the Tamralipta Museum and Research Centre, Tamluk) as one "who has own the horse (or horses) [which has (or have) been] caused to be skilled. At least he was the owner of numerous trained horses. Export of such horses from eastern India to south-east Asia is indicated by an evidence of K'ang T'ai.[50] These horses of central Asian origin were used to be brought to the territory in question and then exported by sea.

Export of grain to foreign countries is suggested by several seals displaying ships and corn and inscription in the Kharoṣṭī-Brāhmī script. One such inscription refers to "*trideśa yātra*" ("journey to three countries") by a rich merchant (no. CKG 184 in the State Archaeological Gallery, Calcutta). Another refers to an ocean-going versel as *jalodhi-sakla* (*jalodhi-sakra*) ("Indra, i.e. the lord, of the ocean") (in the collection of G.S.De of Habra). A ocean-going vessel is mentioned as Trapyaga in a legend on a seal (no CKC 180 at the State Archaeological Gallery). This type of ship is mentioned as Trappage in the *Periplovs tes*) *Erythras Thalasses* (sec 44) and as Tappaka in the *Aṅgavijjā* XXXIII).

The above noted terms have social or economic import and sometimes have socio-economic implications. We may particularly refer to the terms implying vocations of different sections of the society.

E

The above discussion on the socio-economic terms in Kharoṣṭī inscriptions betray a lack of sufficient data in such documents, which generally record religious donations. The lacunae regarding information on society or economic conditions will have to be filled up, at least pratly, with the help of literary and other types of archaeological sources. We may, however, expect to come across more socio-ceonomic term in the newly found source, the Kharoṣṭi and Kharoṣṭī-Brāhmī inscriptions of Eastern India.

NOTES

1. B. N. Mukherjee, "The Name *Kharoshthi*", *Journal of the Asiatic Society*, 1981, pp. 144.

2. A.H. Dani, *Indian Palaeography*, Oxford, 1963, pp. 251-252.

3. *Asiatic Society, Monthly Bulletion*, August, 1989, Vol. XVIII, no. 8, pp. 1 f.

4. S. Konow, *Corpus Inscriptionum, Indicarum* Vol. II, pt. I—Kharoshthi Inscription with the exception of those of Asoka, Calcutta, 1929 (cited below as CII, vol. II, pt. I), pp 48 and 50 ! B. N. Mukherjee, "Mathurā and Its Society—The Śaka-Pahlava Phase, Calcutta, 1987, pp. 271, Journa of Ancient Indian History, vol. XIII, p. 285 ; Journal of the Indian Society of Oriental Art, no. vol. XIv, pp. 43f.

5. B, N. Mukherjee, "Central Asia (including North Afghanistan)', The Cultural Heritage of India, vol. v, (edited by S. K. Chatterji), Calcutta, 1978, pp. 704-706.

6. E. Hultzsch, Corpus, Inscriptionum Indicarum Vol. I, Inscriptions of Aśoka, Oxford, 1925, pp. 82 (Mansehra) 45 (Kalsi) and 23 (Girnar) ; D. C. Sircar, Asokan Studies, Calcutta, 1979, p. 31. (Erragudi).

7. B N. Mukherjee, Studies in Aramaic Edicts of Aśoka, Calcutta, 1984 (cited below as SAEA), pp. 52-53 and p. 66, n 10.

8. *Ibid*, p. 53.

9. E. Hultzsch, *op. cit.*, pp 56 and 75 : D. C. Sircar, *op. cit.* p. 24.

10. D. C. Sircar, *op, cit.*, pp. 135-136.

11. M. Monier Williams, A Sanskrti English Dictionary. reprint, Oxford, 1960, p. 330 and 794.

12. Digha-nikāya (P. T. S. edtion), vol. 1, p. 6 , Kautilya, Arthasastra, I, 21. II, 25 ; B. M. Barua, Inscriptions of Aśoka : pt. II, Calcutta, 1943, p. 225.

13. E. Hultzsch, *op. cit.*, pp. 51 and 71.

14. M. Monier Williams, *op. cit.*, pp. 322 and 858

15. SAEA, pp. 12 and 14.

16. *Ibid*, p. 16,

17. *SAEA*, pp. 12, 14 and 16-17, M. Monier-Williams, *op. cit.*, pp. 509 and 1294.

18. *SAEA*, ppl 12, 16 and 63 ; Eratosthenes, quoted in Strabo, Geographikon, XV, I, 11 and in Arrian, Indike 111, 1-5 ; Strabo, op. cit., XI, 8, 9 ; Pliny Naturalis Historia, VI, 21, 62-64. One of the statements of Megasthenes, quoted by Strabo, refers to officials (of the Maurya empire) responsible for "keeping" the rivers "improved" making roads and placing pillars "at every ten stadia", "showing by-roads and distances" (Strabo, *op. cit.*, XV, 1,50)

19. CII, vol II, pt. I pp. 4p ; Journal of the Asiatic Society, 1981, vol. XXIII, nos 1-2, pp. 156-157 etc.

20. H W. Bailey, Dictionary of Khotan-Saka, Cambridge, 1979. p. 325.

21. Maitreyasamiti (edited by Leumann, Strassburg, 1919) ; p. 67 ; CII, vol. II, pt. I, p. 143.

22. *CII*, vol. II, pt. I, pp. 143 and 145.

23 B. N. Mukherjee, The Rise and Fall of the Kushāna Empire Calcutta, 1988, (cited below as REKE) pp. 375-376.

24. CII, vol. II, pt. I, pp. 28, 149 etc.

25. *Ibid.*, p. 149.

26. *REKE.* pp. 861p.

27. Journal of the Asiatic Society, 1934, vol. XXVII, nos. 1-4, pp. 11-12.

29 J. Marshall, Taxila. vol. II. Cambridge, 1957, p. 613.

30. CII, vol. II, pt. I, p. 98.

31. *Ibid.*, p. 99.

32. B. N. Mukherjee, The Paradas—A Study in Their History and Coinage, Calcutta 1972, pp. 22-24, n. 57.

33. *Ibdi.*, pp. 23-24, n. 67.

34. See above nn. 32 and 33 : C. Seltman, Greek Coins, 2nd edition, London, 1954, pp. 34-35.

35. Vestnik Drevney Istori, 1976, no. 1, pp. 72f, Journal of the Asiatic Society, 1981, pp. 163f, T. Burrow, The Language of the Kharoshthi Documents From Chinese Turkestan, Cambridge, 1937, p. 99.

36. B. N. Mukherjee, The, Pāradas, pp. 11f.

37. T. Burrow, *op. cit.*, pp. 71 and 111.

38. *Ibid.*, H. W. Bailey, *op. cit.*, p. 131.

39. See above n. 37 and 38.

40. CII, vol. II, pt. 1, p. 48.

41. T. W. Rhys-Davids and W. Stede, The Pali-Text Society's Pali-English Dictionaay, London, 1621, p. 211.

42. CII, vol. II, pt. 1, pp. 38-39.

43. *Ibid*, pp. 54, 55, 67, 66, 79, 145, 157 etc, Journal of Ancient Indian History, vol, XI, p. 102.

44. *RKKE*, pp 369-70.

45 See above n. 3.

46. We may and here that Ptolemy in the 2nd century A.D. referred to the settlement of the Brakhmanai Magoi in a part of India Intra Gangem (Geographike Hupheaesis, VII, 1, 74).

47. D. C. Sircar, Select Incriptions Bearing on Indian History and Civilization, vol. 1, and edition, Calcutta, 1965, pp 292.

48. M. Monier Williams, *op. cit*, pp. 949 and 1141.

49. T. W. Rhys—Davids and W. Stede, *op. cit.*, p. 118.

50. K'ang T'ai, Wu Shih wai Kuo chuan ; B.N. Mukherjee, The Economic Factors in Kushāna History, Calcutta, 1670, pp 377.

SOCIO-ECONOMIC CONDITIONS IN SOUTH ORISSA. A SURVEY FROM THE EARLIEST TIMES TO A.D. 1568

Shishir Kumar Panda *

The socio-economic life of Sonth Orissa was determined by her politico-geographical conditions. The rolling uplands of the south western part and rivers like Rsikulvā Vaṁśadhārā and Nāgavalī in the coastal landscape at the Bay of Bengal offered protection to South Orissa from foreign armies and outlet to over-sea countries. Physical features also contributed much to her socio-economic growth.[1] The tracts of Southern Orissa were the abode of many tribal people who continued to maintain their primordial economic and cultural traits upto recent times. The river valleys of South Orissa also proved conducive to the growth of cultural and economic identity. In spite of rise and fall of many dynasties. the political stability in the larger part of her history are responsible for her socio-economic progress. Here, in this paper we shall make an attempt to depict the socio-economic conditions of South Orissa showing its changes and continuity.

Ancient Period :

The early history of southern Orissa still remains in obscurity. It may be presumed that some principalities might have been founded in this region in the fourth and third centuries B.C. in the from of tribal princedoms of the type known to have existed in large areas of Northern India during the time of Buddha. In the fourth century B.C. coastal parts of South Orissa probably formed part of Kaliṅga and was under the rule of the Nanda dynasty of Magadha as known from the Hatthigumpha Inscrip-

---

* P. G. Dept. of History, Berhampore University, Brehampore-760007

tion of Khāravela.[2] South Orissa might have formed an administrative unit of the Nanda empire. But nothing can be said definitely due to the paucity of materials. However, some Buddhist texts give stray references to her socio-economic conitions.[3] It is known from the *Vesantara Jātaka* that Kaliṅga was often visited by famines and droughts due to uncertainty of monsoon. The Buddhist Jātaka depicts the horrible condition of the drought affected people of Kaliṅga.

The known history of South Orissa begins with the conquest of Kaliṅga by the Mauryan emperor Aśoka in the year 261 B.C. South Orissa formed an administrative unit of the Mauryan empire as known from the Jaugada Inscription. Though the Aśokan inscriptions do not throwany light on the socio-economic condition of the Kaliṅga people, it can be presumed that the people of Kaliṅga were militarily strong and had a stable economy. Magadha was jealous of economic prosperity of Kaliṅga. Kaliṅga monopolised the trade and commerce of Eastern India through her ports and inter-state routes which passed through southern Orissa.

Though there is the paucity of literary data in this period, we have some archaeological data to show socio-economic condition of ancient South Orissa. A major systematic excavation unveiling the cultural sequence has been carried out by the Archaeological Survey of India in the coastal plains of South Orissa, i.e. Jaugada in the Ganjam district.[4] Here the excavation revealed a full fledged iron-using culture. In the first period the pottery was plain and devoid of paintings. The ceramic industry consisted of an ordinary dull red ware with or without slip. Black and red ware of well burnt fabric with a polished surface were also found. They showed common shapes of dish and bowl. In the second period the decorated pottery consisted of incised and applied patterns. The knobbed vessel which was found in the early phase continued in this period with a degenerated fabric. Other cultural equipments consisted of beads of shell, bone, carnelian, agate, crystal, quartz, terracotta and copper and iron implements. Besides this, one punch marked coin and two Purī-Kuṣāṇa coins were also collected from this site. A comparative study of this site with other sites of Oriss shows that the process of cultural development was simultaneous with both in Central Orissa and uplands of Western Orissa. Possibly there was a cultural interaction between Sothern Orissa, Coastal Orissa and Western Orissa.[5]

In the second half of the 1st century B.C. Southern Orissa became a part of Mahāmeghavāhana empire of Khāravela. He not only expanded his kingdom towards north and south but also undertook some works of public welfare and cultural activity. His Hathigumpha Inscription[6] speaks of music, dance and merry-making with which the citizens were entertained. Further it is known that coins were being used in his period. We find references to the exact number of coins which Khāravela spent to repair the gates and ramparts of Kaliṅganagara. However, so far we have not discovered any conins of Khāravela's period. The inscription also speaks of the rich cultural life of the people.

After the fall of Khāravela, South Orissa came under the rule of the Āndhra-Sātavāhanas for a short period till the rise of the Māṭhara dynasty in the fourth century A.D. The Māṭhara dynasty rose into prominence 'from below' whereas other early ruling dynasties of Orissa were 'from above'. In this regard South Orissa laid the foundation of the first Orissan dynasty from the soil. In this period we notice for the first time the grant of land to the Brāhmaṇas which created a new class of landholders in Orissa. The Korasonda Plates[7] of Viśākhāvarman (cir. 4th century A.D.) are the earliest such grants found in Orissa. In the land grants the villagers were instructed by the king or the donor to do all customary services and to pay all the dues to the donee. The cultivators were also asked to offer them *māya* and *hiraṇya.* Further, the donor requested the future rulers not to disturb the grants. Such grants were made not only to the Brāhmaṇas but also to the religiaus monastic institutions. There were also a large number of *agrahāra* villages. Some *agrahāras*, though tax-free, had to pay an annual cess of 200 *paṇas* as known from the Ningondi grant[9] of Pravañjanavarman.

From early times South Orissa, as a part of Kaliṅgan empire, had taken part in inland trade and maritime activities as known from the literary and archaeological sources. Southern Orissa was connected with good roads. The Mauryan army might have followed a route to South Orissa from Magadha. Khāravela's military expeditionsto the kingdom of the Sātavāhanas in the west and the countries of the Pāṇḍyas in the South testified the fact that Southern Kaliṅga was connected with roads with the countries of the North, West and South. Some well known routes connecting Southern Kaliṅga with the countries to its South and West existed from early period is known from Samudragupta's southern expedition.[10] From the geographical data of the *Mahābhārata*[11] it is known that Southern Kaliṅga had communications with other parts of India through inland as well as coastal routes. It states that Yudhisṭhira reached this territory while travelling by sea-shore from Gaṅgāsāgarasaṅgam. Further he went from the Mahendra hill (Mahendragiri on the border of the Ganjam and Srikakulam districts) to the Draviḍa land through some holy places. The *Raghuvaṁśam*[12] of Kālidāsa mentions Raghu's campaign in the region of Utkala and Kaliṅga. From this we canpresume that there was a regular route which connected Suhama and Vaṅga with Utkala and Kaliṅga in the 4th-5th centuries A.D. The routes mentioned above are no doubt were not only used for military purposes but also for trade.

The geographical location of South Orissa on the Bay of Bengal gave her outlet to foreign countries for trade relation from the earliest times. This is attested by the Buddhist as well Jaina texts which give evidence of her overland and sea-borne trade with the outside world through a number of ports situated on the coasts of Southern Orissa. They were Pithuṇḍa and Paloura-Dantapura.

Pithuṇḍa, another capital of Kaliṅga, is mentioned in the Hathigumpha Inscription of Khāravela.[13] It may be the same as Pitundra Metropolis located by Ptolemy in the country of Maisoloi or Maisolia.[14] He locates this country between the mouth of the Maisolos (Godāvarī) and the Manadas (Mahānadī). The Jaina *Uttarādhyāyanasūtra*[15] also mentions a port named Pihuṇḍa. Sylven Levi[16] identified Pihuṇḍa with Pithuṇḍa of the Hathigumpha inscription. However, K.S. Behera[17] tentatively locates it near Kalingapatnam.

The Buddhist and Jaina texts refer to another sea-port of South Orissa named Paloura-Dantapura. The *Culla Kaliṅga Jātaka*[18] mentions that Dantapura, the capital city of Kaliṅga, was linked with many other kingdoms with good roads, It has also been referred to in the *Mahāgovindasuttanta* of the *Dīgha Nikāya*,[19] the *Jātakas*,[20] the *Dāthavaṁśa*[21] and the Jaina work *Uttarādhyanasūtra*.[22] Ptolemy[23] speaks of the Gangetic gulf and fixes the position of Paloura or Pokoura. It has been taken to be a Dravidian from of name of the famous city Dantapura, the ancient capital of Kaliṅga. The name of the town suggests its important product, viz. tooth or tusk of elephants, which might have been used for trade. The *Uttarādhyāyanasūtra*[24] refers to a merchant Dhanamitra who traded in ivory at Dantapura. The *Mahābhārata*[25] speaks of a town called Dantapura which may be the same as Dantapura. Pliny[26] informs of a town called Dandagula which is said to have stood at a distance of 625 miles south-west from the mouth of the Gangas. McCrindle[27] notes that the passage across the Gangetic gulf from Paloura to Sada in a direct line from West to East is 1300 stadia. Marinos speaks of the journey from Paloura to Golden Khersonese was via Sada and the city of Tamala. According to old traditions centering round Tapassu and Bhallika, the first lay disciples of Śākyamuni, merchants coming from the coast of Burma were landing at the coast of Paloura.[28] Thus it is evident that Paloura-Dantapura was a famous emporium not only of South Orissa but also of the whole of Orissa and its importance lay in its enviable situation on the route of commerce between Orissa and Far East.

These ports were linked with both land routes connecting Northern and Southern India and river routs. It seems that trade and commerce flourished in this region which might have contributed to the sound economic life of the people. The finding of punch marked coin and Puri-Kuṣāṇa coin at Jaugada proves this fact. In 1858 Walter Elliot collected a large number of copper coins at Jaugada and J.D. Beglar identified them as Kuṣāṇa coins.[29] These coins were certainly not the products of the currency system of the region but brought through trade and commerce.

In ancient time both Jainism and Budhism flourished side by side in this region. Pithuṇḍa and Paloura-Dantapura were not only trade centres but also centres of Jainism and Buddhism From the time of Mahāvīra, Pithuṇḍa was a centre of Jainism as known from the Jaina *Uttarāyadhyānasūtra.*[30] Khāravela in his eleventh year of reign period renovated this city, the ancient citadel of Jainism. The Jaina image worshipped there has been identified with Ādinātha Ṛṣabhanātha.[31] Mahāpadmananda, the ruler of Magadha, might have taken this image after the conquest of Kaliṅga. Khāravela as a great patron of Jainism led a campaign to Magadha and brought back this image.[32] Besides Pithuṇḍa. Paloura-Dantapura was a centre of Buddhism in ancient times. It is known from the Buddhist text *Datha-dhātu Vaṁsa* that after the demise of Buddha, a tooth was brought to Dantapura and a *caitya* was constructed to worship the tooth.[33] These centres might have been visited by a number of travellers for religious purpose too.

EARLY MEDIEVAL PERIOD :

During the early medieval period South Orissa was ruled by comparatively bigger ruling dynasties. They were the Śailodbhavas who ruled from 6th to 7th Century A.D. in Orissa extending from the river Mahānadī in the north to the mountain Mahendra in the south. Their kingdom was known as Kaṅgodamaṇḍala which included the whole of coastal region of South Orissa. They were followed by the Bhaumakaras whose kingdom comprised the territories of Southern Orissa. In the meantime another ruling family, the Early Eastern Gaṅgas rose to power around the 5th century A.D. in the Mahendragiri region and expanded their territory upto the river Vaṁśadhārā.

In this period we get a larger number of land grants to Brāhmaṇas by various ruling dynasties in South Orissa. Sometimes, the kings granted land to a group of Brāhmanas in a single village. The man purpose behind such land grants was the establishment of Brahmanical pockets in the kingdom which contributed for the expansion of agriculture and economic upliftment of the people. The Brāhmaṇa donees brought new knowledge of agriculure which improved cultivation in the tribal areas. The land grants served as an important means for bringing virgin soil under cultivation. Enterprising Brāhmaṇas were given useful employment in the backward aboriginal tracts.

where they could spread new methods of cultivation. Also same medieval beliefs and rituals sponsored by the Brāhmaṇas helped material progress among the tribal people. They taught the primitive people the use of plough and manure and fostered agriculture by giving them the knowledge of seasons and planets.[34]

The Early Gaṅgas donated a large number of villages to the Brāhmaṇas in Kaliṅga region. The Achyutapuram Plates[35] of the Early Gaṅga king Indravarman (c. 7th century A.D) record the grant of one *hala* of land to a Brāhmaṇa, Durgāśarman in the village of Siddharthaka. Similarly, the santabommali Plates[36] of Indravarman also record the grant of two *halas* of land to a Brāhmaṇa. The Almonda plates[37] of Anantavarman (802 A.D.) state that land was granted to a Brāhmaṇa on the day of a solar eclipes.

Land grants provide a clear picture of the land survey system in the Śailodbhava period. Before the grant was made, land was surveyed and measured. Mādhavarāja granted a village to a Brāhmaṇa Charanpa Svāmi, in the Kṛṣṇāgiri Viṣaya of Kaṅgoda.[38] Another ruler, Mādhavavarman, donated a village nomed Ambagrāma in the Devagrāma Viṣaya to a Brāhmaṇa, Nārāyaṇa.[39] Another village Nivinā was assigned to a Brāhmaṇa in the Khidiṅgāhāra Viṣaya[40] About eight villages and forty-two *timpirās* of land were donated by the Śailodbhavas to Brāhmāṇas, The *timpirā* was the standard of measurement of land known from the Parikud Plates[41] and Cuttack Museum Charter.[42] Similarly, the Bhaumakaras followed the practice of land grants to the Brāhmaṇas in South Orissa.[43]

The fertile soil and the hot climate so South Orissa resulted in evolving various kinds of agricultural products in the period under review. In the inscriptions as well as in literature we have references to large number of crops that were grown in this region. Yuan Chwang, the Chiness traveller, who visited Kaṅgoda in the 7th Century A.D., mentioned regarding its harvest[44] and also that of Kaliṅga.[45]

Of all agricultural products rice was the principal food grain. It was produced abundantly. Kālidāsa[46] reports that Magadha and lowlying plains of Vaṅga and the Southern Plateau Produced sufficient paddy. Among fibrous products, the most important was cotton. The *Arthaśātra*[47] metioned the production of best cotton in Kaliṅga from early times. In the *Hud-ud-al-Alam*[48] the Orissan regions to the north of Ganjam and south of Rio-de-Palouro and Andhra are described as the places producing large quantities of good cotton.

Fruit was also produced plentily in South Orissa. Yuan Chwang says, 'fruit and flowers grew profusely' in Kaliṅga.[49] Coconut was of considerable importance among the fruit trees. It was chiefly grown in the coastal regions. Kālidāsa in his *Raghuvaṁśam* states that Rāghu, in course of his *digvijaya*, reached the country of Kaliṅga where his brave soldiers drank the sweet juice of coconut.[50] Palm was another useful plant. It was also chiefly grown in the coastal areas. Kālidāsa refers to the sea-coast which was blackened with palmyra forest.[51] Again he states that in the *Svayambārasabhā* Indumatī was told that by marrying the Kaliṅga king she could pass her time in the sea-coast which was wooded with palmyra-palm.[52] Betel-nut and betel-leaf plants were also grown in the coastal belt. Kālidāsa further says that Raghu afier defeating the king of Kaliṅga proceeded towards south along the coast which was full of betel-nut plants.[53] That betel-leaves of larger size were also produced is known from the description of Kālidāsa.[54] He states that the army of Raghu drank coconut juice in betel-leaves after their victory over Kaliṅga.

Several branches of industry were maintained at the high level because of the abundance of raw materials and the skill and enterprise of the artisans and craftsmen of South Orissa. Textile industry reached its perfection from early times, the *Arthaśāstra* refers to the production of best stuff of cotton fabrics in Kāliṅga.[66] Kanakasabhai states that the Nāgas of Kaliṅga were famous for their skill in weaving,[56] The word Kalingam signifies 'cloth' in the Tamil language. In the Gilgit texts, the limbs of *Strīratna* are described as soft as the touch of a scraf from Kaliṅga.[57]

The most important craftsmen from the point of view of village economy were the blacksmiths, potters, garlanders and goldsmiths. Blacksmith's profession won the vital importance in the rural society. He was supplying ploughshares, sickles and knives to the farmers. Besides, he was supplying war-weapons. The coppersmitas were making copper vessels and plates for land charters. The potters were of immense importance to the society. They supplied earthen pots for storing water, performing rituals and cooking food and large vessels for storing grain. Goldsmith was another important craftsman who was making ornaments both for the males and female. A class of artisans specialised in the art of ivory carving flourished in South Orissa. One can trace the origin of the name Dantapura (Paloura) to its ivory industry. According to the *Periplus*, Indian supplies of ivory came from Barygaza, Muzeris, Nelcynda and Dosarene (Orissa) and Orissan region produced the best Indian ivory.[58] The *Hud-ud-al-Alam* also refers to the conch shell and ivory export of Orissa.

The Arab and Persian writers of 9th and 10th centuries A.D. throw light on the sea-ports and maritime trade of Orissa.[59] Ibn Khurdadhbhi, Ibn Rusta and the anonymous author of *Hud-ud-al-Alam* refer to the Bhauma kingdom of Orissa.[60] They speak of the main ports of Orissa as Kaliṅganagara, Ganjam, Keylkan, Al-sava and Nubin. Among them only two ports of South Orissa can be identified properly. They are modern Mukhalingam (Kaliṅganagara) and Ganjam. Further they inform us that Nubin was situated on the frontier of the Bhauma kingdom and the corn of Sarandib (Suvarṇadvīpa) came from this town. Regarding the products they refer to large elephants, large quantities of pepper, good cotton and white conch-shell. These evidences show that South Orissa continued her maritime trade with foreign countries.

Further, in this period we get definite evidence of cultural relations between Kaliṅga and South-east Asian countries like Java, Sumatra, Bali, Borneo and Malaya collectively known as Suvarṇadvīpa.[61] The cultural relations were established definitely through overseas trade with these countries. The inscriptions of Java refer to the people of Kaliṅga along with other peoples.[62] There were also trade and cultural relations with China. The Chinese sources inform us that a famous scholar, Subhakara Simha, son of the king of Orissa, visited the court of the Chinese emperor Husan-Tsung[63] Another Buddhist monk of Orissa, named Prajnā, carried a Buddhist manuscript *Gandavyuha*, autographed by the then king of Orissa for the Chinese emperor, Te-Tsong[64] We can presume that Subhakara Simha and Prajnā might have travelled from the port of Paloura in merchant vessels like Fa-hien who returned to China in a large merchant vessel with 200 other passengers.

In the sphere of social life this period marks many changes in the society. Traditional caste system was deep rooted in the soil of South Orissa. They were the Brāhmaṇas, the Kṣatriyas, the Vaiśyas and the Sūdras which was known as four *varṇas*. Since the 4th century A.D. in Kaliṅga, Brahmanism rose into prominence under the patronage of the Mātharas. From that period the Brāhmaṇas assumed a calm superiority in the society. Their prestige and power began to rise. Kaliṅga was mostly populated by the *Yajur-*

vedi Brāhmaṇas. The rising power of the Brāhmaṇas brought a revolutionary change in the socio-economic life. The Brāhmaṇas who were well versed with the *vedas* and *dharmaśāstras* got the first position in the society by virtue of their learnedness. They were patronised by the Gaṅga rulers of Kaliṅga and Sailodbhava rulers of Kaṅgoda. At that time, the Brāhmaṇas were divided into various *gotras* and *caraṇas* like *Bhāradvāja, Kauśika, Atreya, Vātsya, Kautsya, Haritaka, Maudgalya, Sāndilya, Kaundinya Jatukarna, Gārgeya, Gautama, Kāśyapa* etc.

The donation of land grants forms an important chapter in the history of this period. The kings were donating lands to the Brāhmaṇas. The Chicacole copper plate grant[65] of Devendravarman IV mentions the donation of lands to three hundred *Vājasaneya* Brāhmaṇas. Among them many *brahmacāris* and *brahmacārinis* devoted themselves to the study of the *vedas* and *dharmaśāstras*. They were getting much respect in the society. The Ganga ruler Devendraverman I donated the Navatula *grāma* of the Karasaḍa Pancāli *Viṣaya* to the *brahmacārin* Pillasvāmī and *brahmacārinī* Pillikasvāminī on the day of the moon eclipse in *Māghapurnimā* and issued Tekkali Copper Plate grant.[66]

Spreading of education and uplifetment of religion and culture were the main duty of the Brāhmanas. They formed the educated elite in the society. They were getting land grants and *agrāhāra* villages by the rulers for their duties to the society. The land grant system prevailed in Kaliṅga from the time of the Māṭharas. The Korasonda grant of Viśākhāvarman is the earliest land grant in Orissa.[67] The tradition of land donation was continued by later rulers from that period. These land grants contributed to the rise of the power and privileges of the Brāhmanas in the society.

Though the Kṣatriyas monopolised the higher posts in the administration, certain posts were also given to the Brāhmanas. The posts, like *Sandhivigrahika Amatya* and *Sarvadhikārin*, weregiven to eligible persons irrespective of castes. The *Purohita* playeda vital role inthe day to day adminis ra tion. Hewas the chiefcounsellor of the king in religious matters By the help of the Brāhmanas the kings were performing various types of *yajnas* such as *Vajapeya* *Aśvamedha* and similar other *Vedic* sacrifices.

The Kṣatriyas were given second position in the society, Brāhmanas being the first. Yuan-Chwang saw the Kṣatriyas as a race of kings. He says, 'the second order is that of the Kṣatriyas, the race of the king ; this order has held sovereignty for many generations.'[68] Generally the royal family and their relatives formed the Kṣatriya class. They occupied the main posts in the Governmental administration and army. The posts like *Visayapati*, *Durgapala*, *Mahasamanta* and *Mahottara* were mainly occupied by them. Princes of royal blood were in charge of responsible posts.

The Kṣatriyas were were well trained in the art of warfare. To fight gallantly in the battlefield was their sacred duty. The rulers personally took leading part in the army operation. In the peacetime they were engaged in public welfare. They formed the least population in the society.

The Vaiśyas werethe third castein society. They formedthe lion share of population in the society. Development of the society depended mainly upon them, Yuan Chawang[69] describes trade as their chief calling on life. Agricultural production and oversea trade were conducted by them. The traders of Kalinga, who were carrying trade in oversea countries like Burma, Ceylon, Siam, Suvarnadvipa, Cambodia and Funan, might be from the Vaiśya community. They were the main carriers of culture to South-east Asia. There were also potters and metal workers among the community of the Vaiśyas These artisans were living in separate villages.

Some Vaiśyas took active part in the military administration. Like the Kṣatriyas they were well trained in the art of warfare. Many Vaiśya *senapatis* and *dandanayakas* were crowned with success. The Andavaram Copper Plate of the Gaṅga king Vajrahasta II records the success ot one *Vaiśyadandanayaka* named Madapabhīma.[70] Vajrahasta IV also issued Pondura Copper Plate grant[71] to reward a brave Vaiśyasenāpati. There were also Vaiśyāgrahāra villages organised by the rulers. The Chicacole Copper plate grant records that the Gaṅga king Madhukāmārnava organised a Vaiśyāgrahāra by uniting Potagrāma, Hondorabada and Moakhini villages [72]

Many Vaiśyas were also appointed in the civil administration and served the country. The posts like Karanika, Peḍapālaka, Pustapāla, Akṣasāli and Mahākspaṭala were only occupied by the Vaiśyas. They also served in the posts like Cāṭa, Bhāṭa and Vaiśanikaballava. In this way the Vaiśyas played a vital role for the upliftment of the society.

It is difficult to know the condition of the Sūdras at that time due to the scanty source material available. We may only note some of the disabilities of the Sūdras during this period [73] They were not permitted to read the Vedas, nor also practice *japa* or perform a *homa*. Despite various disabilities the improved economic condition of the Sūdras was a remarkable feature in the society. Many Sūdras were promoted to the Kṣatriya class and many of them claimed the status of the Vaiśyas. The poorer among them carried menial duties and some of them became rich by agriculture, trade and industry Yuan-Chwang[74] points out that the Sūdras and agriculturists toiled for cultivating soil and were industrious at sowing and reaping The poorer section of the Sūdras were living upon by selling meat, hunting and fishing.

There was also another section of people known as Candālas. They might have formed one section of the Sūdras. They occupied themselves with dirtoy works like cleaning of villages and other similar services. They were treated as outcastes in the society and lived outside the villages. Many tribal people like the Savaras and the Pulindas were generally treated as Sūdras. But it is very much difficult to describe details about them. Even Yuan-Chwang recognised the complexity of caste system by saying, "there are also the mixed castes, numerous clans formed by groups of people according to their kins and these cannot be described."[7-5]

In this period, women occupied a higher position in the society. We do not get any evidence about the practice of early marriage and *sati* system in South Orissa. The system of *kanyādāna* was there The Paralakemadi Copper plate grant of Gaṇga king Anantavarman I states that the Tālthera village was donated to a Brāhmaṇa, Viṣṇusomācārya, on the eve of the *kanyādāna* ceremony.[76] Very likely Anantavarman gave in marrage a Brāhmaṇa bride to Viṣṇusomācārya and donated the village Tālthera as dowry.

It is very difficult to know whether widow marriage system was there. Higher castes, like Brāhmaṇas and Kṣatriyas, generally did not allow widow-marriage. It might have been prevalant in lower castes. Many widows were turned into nuns and lived in the *vihāras*. In the Brāhmaṇa society they remained in the houses, wearing white clothes, discarding all ornaments and by performing fasts and austerities. They spent their time in religious dicussion.

The queens were more interested in religious and cultural affairs than politics. Kalyāna Devī, the queen of Dharmarāja II of the Sailodbhave dynasty was great patron of Jainism. She donated plots of land for the cause of Jainism to *Arhadācārya* Nāsicandra and his follower Prabuddhacandra.[77] Among the Gaṅga queens of Kaliṅga the names of

Achipati and Lokamahā devī are more prominent. Achipati Bhaṭṭārikā was the queen of Dānārṇava and mother of Indravarman III. She was a religious and educated lady. Lokamahādevī, the queen of Anantavarman II, donated some villages with her son, prince Rājendravarman, to a Brāhmana. Skandaśarmā in thetime of lunar eclipse, in 652 A.D. and issued the Padali Copper Plate grant'[78] Mādhavī Devī, the wife of Balināyaka, who was the *Senāpati* of Vajrahasta II, glorified herself by describing the achievements of her husband in a temple inscription at Mukhalingam.[79]

The relief sculptures of temples of the 7th century A.D. and later period, throw much light on the dress and ornaments of the period of our review. The decorative value of ornaments has been recognised in all times and South Orissa has been no exception to this rule. Yuan-Chwang remarked that the dress and ornaments of the kings and grandees were very extraordinary, garlands and tiaras with precious stones were their head ornaments, and their bodies were adorned with rings, bracelets and necklaces [80] Woman were very much fond of ornaments. Among the ornaments, necklaces, ear-rings anklets and girdles were more prominent They were wearing thin elothes under the waist with beautiful folds and plits. But there were not much coverings on the upper portions of the body. They were only putting on one bra over the breasts, and the knot of the bra was on the back. Men were also wearing ornaments like neck laces and ear-rings but waist-chain was their main ornament.

About the people of Kaṅgoda Yuan-Chwang writes that they were 'tall and valorous and of a black complexion, having some sense of propriety and not very deceitful'[81] Speaking about the people of Kaliṅga he says, 'rude and headstrong in disposition, observant of good faith and fairness, fast and clear in speech and manners they differed somewhat from Mid-India.'[82] About the language of the people of Kaṅgoda he mentions 'their written language was the same as that of India. But their ways of speaking were different.'[83]

Medieval Period

In the medieval period South Orissa came under the later Eastern Gaṅgas who occupied central Orissa and expanded their knigdom from the river Hoogly in the north to the river Godāvarī in the south. They were followed by the Sūryavaṁśī Gajapatis. After the fall of Orissa in 1568 in the hands of the Turko-Afghans, South Orissa came under the Qutab Shahi dynasty of Golconda and became a part of Chicacole Circar.

In this period, the economy of South Orissa was based mainly on the rice fertile rice-producing areas of Ṛṣikulyā and Vaṁśadhārā deltas The sound land system evolved by the Later Eastern Gaṅgas helped for the extension of cultivation areas. The pattern of land-holding can be summarised mainly under three categories—1) king as the major holder of land, 2) traditional or existing land holders, 3) newly created land-holders like Brāhmanas, officials and temples.[84] The land administration was under one minister styled as *Sāsanādhikārin* The land revenue was the main source of income of the State. For the first time, as it is known from the temple chronicle, ***Mādalā Pāñji***, a large scale land survey was undertaken by the Later Eastern Gaṅgas from the river Ganges to the Godāvarī.[85] However, it would be wrong to assume that the area of cultivation remained static in this region. Efforts were being made to bring forest areas under cultivation to increase production.

Agriculture was mainly dependent on rain-water as it is today. But the uncertainty of monsoon rains might have resultsd in droughts and famines in South Orissa. To overcome these difficulties irrigational facilities were provided in this region. From the time of Early Gaṅgas constant attempt has been made by the rulers to improve irrigation. Very often inscriptions refer to the water reservoirs like tanks and wells (*taṭāka, vāpi, puṣkariṇī, bandha* and *joda*). The Achyutapurm plates record the grant of land in a field near the *rājataṭāka* (king's tank). The Santabommali plates of Indravarman alsorecord the grantof land whose southern boundary was formed by a channel (*joba*) by a *Ksatriya taṭāka*. The names like *kṣatriya taṭāda* and *rājataṭākasuggest* that these reservoirs were constructed and most probably owned by the royal families and the Ksatriya community. They appear to have remained under some kind of control and, there-fore, could not be utilised for irrigational purposes without their prior approval. The Achyutapuram plates of Indravarman inform that on the occasion of consecration of a *rājataṭāka*, land was granted to a Brāhmana,[88] Here it is clearly stated that nobody should cause any hindrance to the donee if he obens the sluice gate (*udaka bandha*). The irrigational projects were further intensified by the Later Eastern Gaṅgas. The Vizagapatam grant of Coḍagaṅgadeva, dated A.D. 1135, refers to a highly developed irrigational system[89] It mentions an irrigational well, named Gaṅgavāpi, a tank called Mahādevītaṭāka and an embankment named Veṅgīmvilvasetu. A number of dams were also constructed on the rivers for irrigation. This is attested by the Tiruvidaimarudur inscription, dated A.D. 1096 of Kulottuṅga Cola, in which he boasted himself of seizing Kaliṅganmaṇḍalam whose rivers were checked by dams (*setu*) [90]

Progressive development of induttrial arts both at the urban and rural centres can be observed in this period. A number of factors led to the growth of industries. They are : 1) rise of landed aristocracy, 2) development of urban centres, 3) royal capitals at the centre and provinces and 4) trade centres which necessitated demand for luxury goods. The most important rural industry from the point of view of village economy were smithy and pottery as it was in early period. There were also village based agro-industries such as manufacturing of jaggery and oil.

The geographical location of South Orissa also favoured the growth of some other types of local industries. For example manufacturing of salt was carried out as it is today. An inscription of Coḍagaṅgadeva refers to a salt tax collector (*lavnākarādhikāri*).[91] The manufacturing of such articles such as salt was localised in coastal areas.

A number of industries were oriented towards important consumers of the period. They were textile production, goldsmiths craft, ivory craft, coppersmithy metal industry and manufacture of perfumes.

The surplus of agrarian and industrial Products might have led to the growth of trade and commerce. The rural trade was probaply carried out by weekly markets (*hattas*) as it was in central Orissa.[92] The Gaṅgn kings were establishing *hattas* by hiring the enterprising elements of the population as a part of their undertakings of public utility. Besides rural trade, there are evidences of continuing supra-local and inter-state trade in this period. There extsted a number of trade routes in different directions in South Orissa connecting other states. There was a road connecting the Bastar region of Madhya Pradesh with Orissa and Bengal, a known from the expedition of Rājendra Chola (A D. 1014-1044), to Danḍabhukti through South Orissa[93] A Gaṅga grant, [94] dated A.D. 909, refers to a route named Dharmarāja Kaliṅga Mārga which connected Central Orissa with South India. Perhaps it was named after king Dharmarāja II of the Sailodbhava dynasty. These routes continued to exist even in the 20th century and were used for internal trade as well as for military operations by the successive Hindu. Muslim and Maratha invaders to Orissa and Bengal.

The inter-state trade was mostly carried on by water routes which were more convenient than land routes. Various rivers of South Orissa, like the Ṛṣikulyā, the V mśadhārā, and the Nāgavali, were of immense importance to her trade in the medieval period. Further the literary sources also speak of a number of ports on the east-coast of Orissa. The early Bengali literature mentiond the ports of South Orissa as Kaliṅga (Kalinga-pattnam) and Chikakali (Chicacole).[95]

A distinctive feature of the social structure of medieval South Orissa was the existence of a number of castes and communities. The geographical location of the region gave rise to the changes in the pattern of caste system. The rigidity in the Brahmanical system faded out and the concept of four *varnas* in the society became fluid. The Brāhmanas were not strictly confined to their caste professions. There was the operation of Ksatriyaization process in the tribal areas. The relative importance of the Vaiśyas relegated to the background and gave rise to the emergence of a dominating class of *Karaṇikas*. Also therewas an upward mobility in the lower stratum of the society. The accumulated surplus labour of Sūdra community made them owners of cultivableland. There were also changes in their religious affiliation and practices which led to the social mobility in the society.

The main function performed by the Brāhmanas were worship in temples and performance of religious rites. Besides this, a large number of Brāhmanas were serving in the administrative machinery due to expansion of the empire under the later Eastern Gaṅgas and Gajapatis. Narahari Tīrtha, a Brāhmaṇa *daita* pontiff, who is known from the inscriptions at Simhachalam and Srikurman (A.D. 1261-1293)[96] served as a regent during the minority of Bhānudeva I and later became his minister. A number of Brāhmanas also served in the army. The Dirghasi inscription, dated A.D. 1075, informs us that Bānapati, a Brāhmana of the

Ātreya *gotra* was a great military general.[97] A group of Brāhmanas also adopted trade as their profession. Two inscriptions, dated A.D. 1402, from Srikurman refer to one Ṛṣdanāyaka, son of Pragoda Upādhyāya, and grandson of Viṣnudāsa Upādhyāa, as a trader of horses (*ghoḍā vāṇijra* and a Kaliṅga *vyāpārin.*[98]

The Brāhmanas, who were regarded as the highest among the four *varṇas*, were enjoying special prerogatives in the society: They were the powerful members of the State and land owning aristocracy weilding substantial political and economic power At the same time they enjoyed the royal patronage also The grant of land to Brāhmanas led to the establishment of new Brāhmana colonies in South Orissa. A gift of single village to hundreds of Brāhmanas was definitely helpful in creating Brahmanical settlements. Many grants of the Later Eastern Gaṅgas and Sūryanamśi Gajapatis show that the rulers took every possibility to establish new Brahmanical pockets. The Brāhmanas were also invited from different parts of the country. The gifted villages were known as *śāsanas* as they were created by *tamra sāsanas* (copper plate chartes) Even today numerous villages of South Orissa bear names with the suffix *sāsan* thereby indiacating that they were originally gifted by the rulers.

The Kṣariyas as a caste are rarely mentioned in the records. This might be due to the fact that the practice of stating their caste was not popular. The Kṣatriyas mainly cansisted of the royal family and officials They were next to the Brāhmaṇas in importance and status in social hierarchy. The period marks the genesis of the process of Ksatriyaisation in Orissa. From the records we know that the Gaṅgas at the Gajapatis were originally not Kṣatriyas. but later on they claimed the status of the Kṣatriyas.[99] The acceptance of Kṣatriya status was essentially an attempt to prove stutus by birth and to acquire the appropriate and legitimate lineage, In the tribal areas the Brāhmaṇas played a vital role for bringing the local chiefs to the forefold of Kṣatriyahood. They connected the local chiefs with the illustrious Rājput clans of North-Western India by making mythological and fictitious genealogy.

The local militia of this period consisted of Pāikas or Khaṇḍāyats. Actually they belonged to the cultivating class. They used to cultivate land in the time of peace and took weapons at time of war. In addition, the tribals who took part in wars later on claimed the status equivalent to the militia cultivator caste of Khaṇḍāyat and were assimilated in the process of Ksatriyaization.

The constant transfer of land and land revenue to the Brāhmaṇas, officials and temples led to the growth of a scribe or Kāyastha community in this period. A large number of writers and record-keepers had to be employed to draft documents of the land and villages. These works were done by a class of writets who were known by various names such as Kāyastha, Karaṇa, Karaṇika, Pustapāla and Lekhaka. In the initial stage, literates of the higher varṇas were recruited as Kāyastha or scribe to meet the fiscal and administrative need of the State. But gradually the scribes were recruited from different varṇas like Sūdras and Vaiṣyas.

In the Later Gaṅga period, the scribes were such a dominating caste that they adopted local names as Karaṇas. Some rose to high positions, received land grants and held feudatory status. The Parlakimedi pates, of the time of Vajrahasta V, mention a person from the Kāyastha community rising to the status of a minister.[100] It states that the messenger of the grant was Vacpayya of the Kāyastha family who enjoyed the status of a minister of the feudatnry lord Darparāya The functions of the Kāyasthas were not only to write documents but also to hold the charge of records and accounts. They also served as ministers, high royal executives and commander of the army. During the reign of Vajrahasta V, a lady named Guṇḍamā Nāyakī, who endowed fifty sheep for burning a perpetual lamp in honour of Madhukeśvara, describes herself as belonging to a Kāyastha family and wife of the king's commander, Madhuriā.[101] The official position of the Kāyasthas, especially in the villages and local administration, became hereditary and later on crystallised into many sub-castes.

Next to the Kṣatriyas, the Vaiśyas fromed a small community in the society. The inscriptions show that some vaiśyāgrāhara villages were established in South Orissa. The Chicacole copper plate grant of Madhukāmārṇava, dated A.D. 1024, records theorganisation of a vaiśyāgrāhara by uniting three villages, viz Potagrāma, Hoṇḍarāpāda and Morokini.[102] Perhaps these villages were established for a community of professional people to fulfil the economic need of the society. Agriculture and trade were the main activities of the Vaiśyas. The Sreṣṭhis belonged to this community and played a vital role for the development of trade and commerce. They were rich enough to donate land to the Brāhmanas The Chikkavalasa plates of Vajrahastrdeva III, dated A.D. 1059, record the gift of land to a Brāhmaṇa by a Sreśthin named Mallaya.[103] Some Vaiśyas also occupied official positions. An epigrahic record at Simhachalam. dated A D. 1382, mentions one Gurudāsa of the vaiśyakula serving as Mahāsenāpati [104] The Ganjam plate of Vajrahasta III, dated A.D. 1068, records donation of a village to a Vaiśya official Gokana Nāyaka [105]

The Sūdras were numerous and belonged to the lowest stratum of the society. They were not a homogenous caste but comprised agricultural and petty peasants, artisans, craftsmen, manual workers, servants and attendants Their improved condition was a remaskable feature in the society.

Many Sūdras were promoted to the Kşatriya status and many of them claimed the status of a Vaiśya The Arasavalli plates[106] of Vajrahasta refer to a military officer who was a Sūdras. The Sūdras as menial labourers were attached to the temples for services to the God.

Another section of the people called hāḍi, ḍomba, caṇḍāla were cleaning villages and engaged in other dirty services They were also washermen (Rajakas), shoemakers (Carmakāras). fishermen (Kaivartas), hunters (Savaras), basket-makers (ḍombis). They were outcastes in the society and lived outside the villages

South Orissa is mainly a tribal populated region. Except the coastal district of Ganjam, other districts like Koraput and Phulbani are populated by the tribals. The Carjyā poems[107] of the Oriya Vajrajāna Siddhas which was composed from 9th to 13th century A D. metion the tribals like ḍombas, Savaras and Bhills and their life styles Savara men used to put on tiger skins and adorn their bodies with feathers of peacook, necklaces and earrings of the *quñja* fruits. They dwelt far away from the human habitation. Drinking was their usual habit. Hunting was their main occupation and they used to go to distant places in search of animals. They baked their food in fire, the practice which is still prevalent among the tribal communities of Orissa. Their festivals were to begin with the ripening of the cina, kagani paddy.

The above survey of the socio-economic conditions of South Orissa from the earliest times to A.D. 1568 shows that inspite of rise and fall of various dynasties the socio-economic life of the people of South Orissa was stable and progressive. There were also changes and continuity in the socio-economic life of the people from ancient times to the medieval period. The mainstay of economy was agriculture substantiated by irrigation. Village economy was self sufficient. Trade and commerce, both inland and oceanic, were conducted with vigowr. The society was based on a hierachical social structure and was divided on the basis of the caste system. Inspite of this inequality, there was no social tension or conflict in the society. It was only after the fall of Orissa in the hands of the Turko-Afghans in A.D. 1568, the socio-economic conditions of South Orissa began to decline. Further after the annexation of South Orissa, which formed a part of Chicacole Circar under the Muslims, by the East India Company in 1766, her economic resources were drained and developmental activities were stagnated. Inspite of her ancient glory and rice cultural heritage, South Orissa, except her coastal belt, remained as an under-developed area as it is today.

NOTES

1. B. N. Binha, *Beography of Orissa*, NBT, New, Delhi. 1971, pp. 146-162,

2, B M. Barua, *Old Brahmi Inscription in the Udayagiri and Khandagiri Caves*, Calcutta, 1929 ; D. C, Sircar, *Select Inscriptions bearing on Indian History and Civilization*, Vol, 1, 2nd Rev. Ed, Calcutta, 1665, pp. 206-213.

3. *Jataka* (adv, *Jat*), Vol. ed, E, B. Cowell, Cambridge, 1907. p. 487.

4, *Indian Archaeolgy . A Review*, 1956-57, pp. 30-31.

5. B, N. Sahu, Lights on Early Orissan Economy', *Journal of Ancient Indian History*, Vol. XIII, pp. 128-133.

6. B. M. Barua, *loc. cit.*

7. *Epigraphia Indica* (abv, *EI*), Vol. XXI, pp, 23-25,

8, *EI*, Vol. XXI, pp. 112-114.

9, *EI* Vol, XXX, pp. 112 ff.

10. J. F. Fleet (ed.), *Corpus Inscriptionum* Indicarum, Vol III, London , 1888, pp. 1-17.

11. Quoted by D. N Das, *The Early History of Kalinga*, Calcutta, 1977, p. 248.

12. *Loc. cit.*

13. Barua, *loc. cit.*

14. *Ancient India as described by Ptolemy (*abv. *Potlemy)* ed. S. N. Majumdar, Calcutta, 1927, VII, 1, 14, 93.

15. *Uttarādhyanana Sūtra*, ed. J. Charpentier, Uppasala, 1922, XXI, 1. 4.

16. *Indian Antiquary* (adv. *IA*). Vol L V, pp 145 ff.

17. K. S. Behera, "Maritime Trade in Ancient Orissa". in M. N. Das, ed. *Sidelights on History and Culture of Orissa*. Cuttack, 1977, pp. 115-121.

18. *Jāt.*, Vol. III, no. 301, pp 1-5.

19. *Dīgha Nikāya*, ed. T. W. Rhys Davis and J. E. Carpenter, Pali Text Society, London, 1890-1911, II, p. 235.

20. *Jāt.* Vol. II. No 276. pp. 251-262 ; Vol. III, No. 403, pp 228-232 ; Vol. IV, no. 479, pp. 143-148.

21. See Dāthavaṃsa, ed. B. C. Law, Panjab Sanskrit Series, No VII, Lahore, 1929,

22. *Uttarādhayana Sūtra, op. cit*, *XVIII*. pp. 85.86

23. *Ancient India as described by Ptolemy*, ed. S. N. Majumdar, op. *cit.* VII, p, 16.

24. *Uttaradhyana Sūtra*, op, *cit.*, *XVIII*, pp. 45-46.

25. *Mahābhārata*, *Eng, tr*. P. C, Roy, calcutta, 1888, Udyoga Parva, XVIII, 703. 47,

29. *Natural History. of Pliny*, Loeb Clasical Library Edition, Reprint, London, 1956-68. VI, XX,

27. *Ptolemy*, p. 24.

28. H. Chakraborty, *Trade and Commerce in Ancient India*, Calcutta, 1966, p, 145.

29 *EI*, Vol XXVI, pp, 132-135.

30. *Loc. cit.*

31. N. K. Sahu, *Odiya Jatira Itihasa* (in Oriya), Bhubaneswar, 1974, p. 54.

32. Barua, *loc. cit*,

33. N. K. Sahu, *loc, cit.*, p. 52:

34. R. S. Sharma, *Inian Feudalism*, Calcutta University, 1965, p. 281

35. *EI*, Vol. III, pp. 17-21.

36 *Journal of the Andhra Historical Research Society* (adv. *JAHRS*), Vol. IV, pp 21-29.

37. *EI*, Vol. III, pp, 17-21.

38. *Inscriptions of Orissa* (adv, IO), Vol. I, pt 2, ed, S. N. Rajaguru, Bhubaneswar, pp. 158:159

39 *Ibid.*, pp. 174-176

40 *Ibid*, p. 209

41 *EI*. Vol. VI, 287.

42 *Orissa Historical Research Journal* (abv. *OHRJ*) Vol. II, p. 19.

43 For details see, B. Das, *The Bhaumakaras, Buddist King of Orissa and Their Times*, New Delhi, 197, p. 176.

44 T. Watters, *On Yuan Chwang's Travels in India*, Indian Reprint, New Delhi, 1968, II, p. 196.

45 *Ibid.*, p. 198.

46 *Raghuvaṁśa*, (abv. *Raghu*) ed, Rajendranatha Vidyadhusana, Vasumati Granthavali Series, Calcutta, B. S. 1355, IV. 20 & 37.

47 *Arthaśastra of Kautilya* (abv. *AS*) ed. Shamasastry, Mysore, 1919, II, XI, 81.

48 ed. V. Minorsky, London, 1937, pp. 87, 241.

49 Watters, *op. cit.*, p. 198.

50 *Raghu, op. cit.*, IV. 42.

51 *Ibid.*, XIII, 15 and IV. 34.

52 *Ibid.*, VI. 57.

53 *Ibid.*, IV. 44.

54 *Ibid.*, *IV*, 42.

55 *AS, op., cit.*, II. 11.

56 *Tamils Eighteen Hundred Years Ago*, Madras, 1908, p. 45.

57 *Gilgit Text*, ed. N. Dutt, Srinagar, 1942 Vol. III, Pt. 1, p. 36.

58 *The Periplus of the Erythraean Sea*, Eng, tr. W. H. Schoff, New York, 1912, Secs. 49, 56, 62.

59 *Op. cit.*, pp. 86 ff.

60 For details see, K. C. Panigrahi, *Chronology of the Bhaumakaras and Somavamsis of Orissa*, Madras, 1961, pp. 64-72.

61 H. B. Sarkar, *Cultural Relations between India* and *Southeast Asian Countries*, Delhi, 1985, pp. 207-262 ; R. C. Majumder, *Hindu Colonies in the Far East*, 2nd Revised Edn., Calcutta, 1963, pp. 13-14.

62 H. B. Sarkar, *Corpus of the Inscriptions of Java*, Vol. I. Calcutta 1971, Nos. 12, 19, pp. 29. 86.

63 *EI*, Vol. *XV*, p. 363.

64 K. C. Panigrahi, *History of Orissa*, Cuttack, 1981, p. 77.

65 *IA*, Vol. XII, pp. 273-276.

66 *Indian Historical*, Vol. XI, pp. 300-303.

67 *Journal of Bihar and Orissa Research Society* (abv. *JBORS*), Vol. XIX, p. 282.

68 Watters, *op. cit.*, p. 168

69 *Loc. cit.*

70 *EI* Vol. XXVI, pp. 202-204.

71 *JAHRS*, Vol. IX, pp. 23-30.

72 *JBORS*, Vol. XVIII, pp. 272-275.

73 B. Sharma, *Social Life in Northern India*, Delhi, 1966, p 5.

74 Watters, *op. cit.*, p. 168.

75 *Loc. cit.*

76 *EI*. XXVI, pp. 65-58.

77 *EI*, Vol. XXIX, pp. 438-483.

78 *EI*, Vol. XXXII, pp. 201-206.

79 Mukhalingam Inscription of Mādhavīdevi, quoted by N. K. Sahu, *op. cit.*, p. 314.

80 Watters, *op. cit.*, p. 159.

81 *Ibid.*, p. 196.

82 *Ibid.*, p. 198.

83 *Ibid.*, p. 196

84 For datails see, S. K. Panda, "Economic Conditions in Orissa in the Later Eastern Ganga Period, A. D 1038-1434", M. Phil dissertation (unpublished) submitted to the Jawaharlal Nehru University, 1979.

85 *Mādalā Pāñji*, ed. A. B. Mohanty, Bhubaneswar, 1969, p. 31.

86 *EI*, Vol. III, pp 127-130.

87 *JAHRS*, Vol. IV, pp. 21-20.

88 *EI*, Vol. III, pp 127-130.

89 *IA*, Vol. XVIII, pp. 172-176.

90 *South Indian Inscriptions* (abv. *SII*), Vol. III, no. 158.

91 *OHRJ*, Vol. III, no. 3, p. 157.

92 S. K. Panda, "Trade and Commerce of Medieval Orissa, Cir. A. D. 1000-1500," *Journal of Indian History*, Vol. LVIII, pp. 21-28.

93 *Proceedings of the Indian History Congress*, 1940, p. 60.

94 *OHRJ*, Vol. I, pp. 83-90

95 T. C. Dasgupta' *Aspects of Bengali Society*. Calcutta, 1935, p. 30.

96 *EI*, Vol. VI, p. 226.

97 *EI*, Vol. IV, pp. 314-318.

98 SII, Vol. V, nos. 1080, 1176.

99 *JAHRS*, Vol VI, p. 208.

100 *EI*, Vol. III, p. 224.

101 *JAHRS*, Vol. VI, p. 208.

102 *JBORS*, Vol. XVIII, pp. 272-275.

103 *EI*, Vol XXXIII, pp. 145-146.

104 *SII*, Vol. VI, no. 835.

105 *Bharati*, Feb. 1935, pp. 305 ff.

106 *EI*, Vol. XXXII, pp. 311-316.

107 *Caryya Gitika* (in Oriya), ed. K. Mohapatra, Cuttack, 1976, pp. 80, 83 f, 99.

THE MAṬHAS OF EASTERN INDIA IN THE EARLY MEDIEVAL PERIOD

Amitabha Bhattacharyya*

The term *maṭha* has been used in Sanskrit literary texts and lexicons in different senses. It means a hut or cell of an ascetic, a college, a temple and even a carriage drawn by oxen.[1] We are now well acquainted with at least two important ecclesiastical institutions, viz. the Gauḍīya Maṭha and the Rāmakṛṣna Vedānta Maṭha. Their object is the dissemination of learning and culture in their respective fields.[2] The existence of *maṭhas* in eastern India. As centres of education, can be traced from an early period.

The earliest epigraphic reference to the foundatian of a *maṭha* in eastern India is found in the Aphsad inscription[3] of the reign of Ādityasena who ascended the throne sometime in the third quarter of the seventh century A.D. The alleged inscription records the construction of a temple of Visnu by Ādityasena, that of a *maṭha* by the queen-mother Srīmati and the excavation of a tank by the queen Konadevī. Of them, the *maṭha* is said to have been 'given by the queen-mother herself in person to religious people' (*dhārmikebhyaḥ svayaṁ dattaḥ*)[4] As the temple was that of Visnu, the *maṭha*, attached to it, could be described as a Vaisnava one. It is not, however, indicated whether the *maṭha* had any role as an educational institute.

The most important evidence with regard to the role of the *maṭhas* as centres of learning and their *modus operandi* has come to light from Paschimbhag, a village in the Maulavi Bazar District of Bangladesh.[5] The copper plate grant from that village, dated in the year 5 of the reign of Śrīcandra, records the grant of a total of 400 *pāṭakas* of land for the upkeep of nine *maṭhas.* Of them 120 *pāṭakas* went in favour of the teacher, students and members of the non-teaching staff associated with the *maṭha* which had been attached to the temple of Brahman. The list of the donees includes the teacher for the exposition of the *Cāndra.vyākaraṇa*, the students, the accountant. scribe, the founder of the *maṭha*, florists, oilmen, drummers, conch-shell blowers, servants, cobblers, dancers, carpenters, masons, blacksmiths and maid servants. The principal curriculum in the Brahma–*maṭha* was the *Cāndra-vyākaraṇa*, *i.e*, the grammar of Candragomin.[6]

---

* Department of Ancient Indian History & Culture. Calcutta University, Calcutta-700019

The inscription, under review, then enumerates the distribution of 280 *pāṭakas* of land for the maintenance of teachers, students and non-teaching employees associated with the four Vaṅgāla-*mathas* and the four Deśāntarīya- *maṭhas*, *i.e. maṭhas* meant for the Vaṅgālas and those meant for the foreigners. The deities enshrined in either of the two sets of *maṭhas* were Vaiśvānara, Yogeśvara, Jaimani (Jaimini) and Mahākāla, The curriculum in both the sets included the study of the Four Vedas, The classes of the employees attached to these *maṭhas* included in addition to those mentioned in connexion with the Brahma-*maṭha*, the Superintendent. the barber, the physician and the washerman. Thus, while the Brahma- *maṭha* grew as a centre for the study of the grammar of Candragomin, the for Vaṅgāla and the four Deśāntarīya-*mathas* developed as institutes for Vedic Studies.[7] It is not easy to determine why a separate set of four *maṭhas* had to be constructed for the foreigners (*deśāntarīya*), nor is it easy to identify these foreigners, Existence of foreign elements in the population of south-east Bangladesh in the early medieval period seems to be vouchsafed by the terracotta remains unearthed at Mainamati, The term *deśāntarīya* however, needs not be taken as denoting the people of extra-Indian origin. The term could also stand for the students from other parts of India who did not belong to Vaṅgāla, The more important factor in the present context, however, is the full-fledged development of the Brahmanical monastic education in the eastern fringes of Bangladesh in the tenth century A.D. and, if *deśāntarya* be taken in the sense of foreigners, the enrolment of foreign students indulging in Vedic studies.[8]

Of unique importance, however, is the reference to the temple of Jaimani (Jaimini) who lives up in Indian tradtion as the founder of the *Purva-mīmāṁsā* school of Indian philosophy,[9] The Paschimbhag copper plate inscription tends to prove that the great philosopher was deified in or before the tenth century A.D. The existence of his temple at an educational centre, in which the students specialised in Vedic studies, is not unusual *Pūrva-mimaṁsā*, as a branch of learning, deals with the interpretation of the *mantra* portion of the Vedas as opposite to the *Uttara-mīmāṁsa* dealing with the Upanisadic portion. Vaiśvānara is regarded as the author of X. 79-80 of the R*gveda* It will not be out of place to mention in the this connexion that the cultivation of the *Pūrva-mimāṁsā* was quite popular in ancient Bengal. One of the greatest exponents of that school, *viz.* Prabhākara, was widely known as Gauḍa-mīmāṁsaka. The Bangarh *praśati* states that the Śaiva teacher Mūrtiśiva surpassed Bhṛgu and Prabhākara in knowlege and wisdom. The two Prabhākaras appear to be identical.

Welcome addition to our knowledge with regard to the maṭhas of eastern India the early medieval period has been provided by the discovery of two inscriptions of the Pāla period The ruins of Bangarh, locally known as Śivbāṭi, yielded as inscription which records the construction of a huge Śaiva temple known as the Golakī or Golagi maṭha.[10] The epigraph gives an account of the line of Saiva teachers who were associated with this institution. From verses 5-6 of the inscription it apppears that the Śaiva preceptors belonged to the Durvāsā sect, The *Mārkaṇḍeya Purāṇa* states that a portion of Śiva was born as Durvāsas.[11] It may be recalled that the Śaiva ācāryas, mentioned in the famous Malkapuram inscription[12] also trace their descent from Durvāsas. The Śaiva teachers, mentioned in the inscription from Bangarh, are Vidyāśiva, Dharmaśiva. Indraśiva, Sarvaśiva, Mūrtiśiva and Rūpaśiva. Since the names of most of the Mattamayūraka ascetics end in śiva or in śambhu, all the teachers referred to in the Bangarh inscription, may be assigned to the same sect. The Mattamyūrakas. again, were affiliated to the Siddhānta school.[13] Of the Śaiva teachers, mentioned above. Sarvaśiva was the preceptor of Nayapāla. Mūrtiśiva refuted the doctrine of the Digambaras and the Kṛṣṇādvaitavādins.[14] He surpassed even Bhṛgu and Prabhākara in knowledge and reputation. Rūpaśiva has been credited with the revival of the philosophy of the god Caṇḍiguru, *i.e.* Ṣiva, which had lost ground[15] The activities of the ascetics of the Golakīmaṭha of Bangarh and their association with Vārāṇasī seem to be suggested by the fact that Dharmaśiva constructed a temple of good. Trilocanaguru at that sacred place.

The *Līṅga Purāṇa* refers to the different types of temples like Keśara, Nāgara and Draviḍa. It mentions *prāsādakailāsa* with the *vimāna* having the shape of the Kailāsa (*kailāsākaraiṛ= vimānaih*). The various types of *merus*, prescribed for the enshrinement of Śaiva images, are enumerated as *drāsāda-meṛu*, *nīlādrī-śekhara meru*, *nīsadha-meru* and the *mahendra-śaila-meru*. Of them, the *mahendra-śaila-meru* is qualified as *rudrasaṁmata*, *i.e.* in conformity with practice of the Rudras. If the Rudras be taken as referring to a particular sect, then the other categories of *merus* may be said to have been prescribed for the followers of the rest of the sub-sects of the Śaiva system. The *prasāda-meru*. according to the *Liṅga Purāṇa*, should be built of gold and adorned with jewels. Reference has been made to the construction of also *kuṭa* (dwelling) and *maṇḍapa* (temple).[16] It. is of untmost importance that the *maṭha* which, according to the Bangarh praśasti, king Mahīpālahad built for the ascetic Indraśiva happened to have been a *prāsāda-meru*. It glirtered because of use of a huge quantity of gold[17] Within the complex there were a number of temples and ponds. The actual shape of the *prāsādameru* of Bangarh is not known to us. Neyertheless. the description indicates that it was a lofty construction.

Popularity of the Śaiva cult and the royal patronage it received from the Pāla rulers are further attested by the Siyan inscription of the reign of Nayapāla.[18] It records the construction and renovation of a large number of temples and enshrinement of images associated with Śaivism, Śaktism and Vaiṣṇavism. The activities included building up of a temple of Purāri (Śiva) and that of a two-storeyed *matha* for the Śaiva ascetics, enshrinements of nine Caṇḍikā images at a temple built of stone, construction of a temple of Hetukeśa (Śiva) at Devīkoṭa, erection of a temple of Viṣnu and that of an adjoining hospital and quarters for physicians, installation of images of sixty-for Yoginīs and so on.

Construction of Saiva temples and enshrinement of Siva Liṅgas are enumarated in the *Liṅga Puraṅa* as means of libera. tion.[19] It has been even enjoined that construction of different types of Śaiva shrines determines the various categories of attainment on the part of the devotee. Persons responsible for additions, alterations and renovation of Śaiva temples also get their rewards.[20] We have quite a good number of epigraphic records from Central India pertaining to the ecclesiastical activities of the ascetics of the Siddhānta school.[21] It is in consonance with the Puranic prescription that some of the ascetics connected with the Golakī-maṭha of Bangarh undertook construction of temples, excavation of large tanks, gardening of parks and manifold charitable works. Thus Yoga, on which the *Liṅga Purāṇa* lays greater emphasis, does not end in mental abstraction or abstract contemplation. It leads to Kriyā, i.e. business relating to philanthropy and evangelism.

The Bhaturiya inscription refers to Yaśodāsa, the Tantrādhikārin of Rājyapāla, who built a huge temple and enshrined the god Śaṅkara in his Liṅga form.[22] The temple was surrounded by eight other shrines. The inscription records the dedication of the village of Madhuśrava in honour of Vṛsadhvaja. Yaśodāsa earned fame for his generous deeds relating to public welfare. The religious affiliation of Yaśodāsa in not clearly hinted at but his activities relating to philanthropy may indicate that he belonged to the Sidhānta school.

The Gaya inscription, dated in the year 7 of the reign of Nārāyaṇapāla,[23] throws interesting sidelight on the discriminations which weremade in matters relating to the boarding of the ascetics in *maṭhas*. Verse 8 of this epigraph refers to one Bhānudeva who had constructed a *vāsa* (house) at Gaya for providing accommodaiion to the *yatis* or ascetics. This *vāsa*, also called an *āśrama*, has again been referred to as a *maṭha* in in the concluding verse. From verse 11 it appears that the *maṭha* was strictly reserved for those ascetics who were respected by all and for those who had not deviated in any way from the rigours of religious austeritities. This was ordained by the persons engaged in asceticism. The *maṭha*, under review, does not seem to have been connected in any way with the Siddhānta school. Nevertheless, the Gaya inscription, mentioned above, proves that ascetics seeking for accommodation in a *maṭha* had to abide by the rules and regulations of the respective churches.

The most notable account of the organization of *mathas* has been furnished by the Malkapuram inscription.[24] It records that Viśveśvaraśambhu, formerly a resident of the village of Pūrvagrāma of Daksiṇa-Rāḍha in Gauḍadeśa, became the spiritual preceptor of the Kākatiya ruler Gaṇapati (A.D. 1199-1260). Viśveśvara with great effort had constructed a *matha* which came to be known as Viśveśvara-Golakīmaṭha. Within the complex there were a college, a feeding house, a Śaiva temple, a hospital and so forth. Eight teachers were appointed to teach the three Vedas, logic, literature and the Āgamas. Land was alloted for the maintenance of the teachers. Students, physicians and attendants. Viśveśvara, however, settled some Brāhmaṇas of his home village of Pūrvagrāma in 300 *puttikās* of land situated near the Golakīmaṭha. They looked after the income and expenditure and, as remuneration, enjoyed another 150 *puttikas* of land. In case of death occurring to any of the Brāhmaṇas, his wife could be taken in as an employee of the accounts department. She received the same amount as remuneration as her deceased husband did. The over-all picture of the Viśveśvara-Golakī-maṭha is that of a well organised institution run by an efficient management. It had earned celebrity as a centre of learning. The *matha* and the *ācāryas* connected with it have been mentioned in a number of inscriptions from the South.[25] The Golagī or Golakī maṭha of Bangarh does not, however, seem to have been connected in any way with the celebrated institution of the South.

A number of inscriptions from Central India indicate that the Śaiva *ācāryas* belonging to the Mattamayūraka subsect of the Siddhānta school exercised commendable influence over some of the royal courts and that a number of *mathas* were constructed for the Śaiva saints under royal patronage[26] From the inscriptions at our disposal it is difficult to conclude that all the *mathas* were academic institutions. Nevertheless, the fact that

Golakī maṭhas, in particular, were constructed in different parts of the country may point to a concerted movement undertaken by the Śaiva *acāryas* of the Mattamayūraka subsect to disseminate their faith through charity and altruism. This is further corroborated by the manifold charitabla works undertaken by the ascetics afiliated to the different *maṭhas* distributed widely over central and eastern India. The location of the place from which Golakī-maṭha took its name is not certain. It is, however, clear that the movement got its momeutum in the beginning of the eleventh century, It led to the foundation of several *maṭhas* under the name Golakī which had their concentration in south and central India and subtracted to north Bengal.[27]

The cumulative evidence. outlined above, tends to indicate that institutionnal education was not unknown to the followers of the Brahmanical system in the early medieval period. Their institutions were known as *maṭhas*. They developed in different parts of India. Kalhaṇa refers to the appointment of a teacher of grammar in a Vaiṣṇava temple constructed by Avantivarman (A.D. 855-83)[28] and to the foundation of a *maṭha* by Yaśaskara (A.D. 939-48) for the students hailing from Āryadeśa.[29] We are thus in a position to assert that monastic education was not confined to the Buddhist order only. It had its counterpart in the Brahmanical system as well. These institutions are styled *maṭhas* as the Buddhistic ones are called *vihāras*. The greatest contribution to the development of the *maṭha* system was made by the ascetics of the Siddhaānta school of the early medieval period. We can only surmise that the idea of institutional education was derived from the monastic system of the Buddhists.

Incidentally, the Bangarh praśasti throws welcome light on the history of Saivism in eastern India in the early medieval period. Mention has been made of the Bhagalpur copper plate inscription of the reign of Nārāyaṇapāla which refers to the

Pāśupata *ācāryas* and of the Mirjapur inscription referring to the *pariṣad* of the Śaiva preceptors (*ācāryas*). They indicate the existence of the Pāśupata sect in eastern India. The Bangarh Prasasti, on the other hand, proves the influence of the spiritual preceptors of the Mattamayūraka sect, affiliated to the Siddhānta school, in this part of the sub-contiment. They enjoyed royal patronage under Mahīpāla I and Nayapāla in the first half of the eleventh century. Their activities were not confinde to 'North Bengal'. Rūpaśiva travelled widely and won over a number of scholars in academic debates for which king Bhoja (Paramāra) honoured him.[80] The *Siddhānta-sārāvalī* mentions that Rājendra Cola took away the best of the Saiva teachers of northern India with him when he had come to take a dip in the Gaṅgā.[81] We may observe that Iśānasiva and Sarvaśiva are mentioned in the inscriptions of Rājarāja I and Rājendra as royal preceptors[82] and that the ascetics of the Siddhānta school exercised great influence during the reign of the first two Kulottuṅgas.[83]

Rūpaśiva of the Bangarh inscription is said to have enshrined an image of his spiritual preceptor Mūrtiśiva and composed an eulogy in praise of his *guru*. It certainly indicates the deification of Mūrtiśiva. The influx or development of the Mattamayūraka sect thus possibly led to the rise of the cult of Mūrtiśiva in 'North Bengal'.[84]

All the *mathas* were not, however, centres of education. Some of them were boarding houses meant for either the ascetics or students, while others were connected with the missionary activities of the respective sects. The central figure around whom the *mathas* grew up in ancient India was the *guru* or the *ācārya*. A number of epigraphs of the early medieval period bear evidence of the existence of different lines of the preceptors attached to the *mathas* of southern, central and eastern India. In some cases, however, the *guru* or the preceptor was deified which led to the emergence of a distinct sub-sect and furthered the ecclesiastical activities of the respective *maṭəas*. The existence of this practice among the Pāśupata Śaivas is borne out by the Mathura inscription, dated in the year 61 (of the Gupta Era) which refers to the installation of the images of the Saiva teacners Upamiteśvara and Kapileśvara by *ācārya* Udita at the *gurvāyatana*.[35] Lakulīśa who was either the founder or the personality behind the growth of the Lakulīśa-Pāśupata cult, was incarnated at a place called Kāṛohana or Kāyāvarohana in the second century A.D. It is presumable that the *gurvāyatanas*, an instance of which is recorded in the Mathura inscription of the year 61 (in the reign of Candragupta II), were the precursors the Śaiva *maṭəas* of the early medieval period.

NOTES

1. Monier-Williams, *A Sanskrit-English Dictionary*. p. 774, under *matha*.

2. Śaṅkara (c. A.D. 788-820), the celebrated Vedāntist, travelled widely and, according to tradition, founded *mathas* in distant corners of India. With the view to propagating his philosophy he put the *mathas* under the charge of his most competent and devoted disciples. These *mathas* ultimately developed into centres of missionary movement. There are several *mathas* in Indiawhich are associated with the name of Śaṅkara. For the views with regard to the date of Śaṅkara see M. Winternitz, *Geschichte der Indischen Literatur*, Vol. III, Leipzig, 1920, p. 434, n. 1.

3 J. F. Fleet, *Inscription of the Early Gupta King and Their Successors, Corpus Inscriptionum Indicarum*, Vol. III Reprint Varanasi, 1963, pp. 200-208 and Pl. xxviii.

4 Fellt (*op. cit.*, p. 204) reads *dhārmikebhya* though the sign for the spirant (*visarga*) is clearly visible in the accompanying plate.

5 D. C. Sircar, *Epigraphical Discoveries in East Pakistan*, Calcutta, 1973 pp. 63-69.

6 Candragomin appears to be the same as Candrācārya, referred to in the *Vākya-pydiya* of Bharttṛhari. Candragomin was Buddhist and founded a new school of grammar. He did not use the technical terms or *saṁjñās* · nor did he discuss the rules relating to *Vaidika-prakriyā* and *svara-prakriyā*, i. e. Vedic froms and accents. In all probability' Candragomin flourished in Bengal and wrote his treatise in the fag end of the fifth century A.D. (see K. C. Shastri, *Bengal's Contribution to Sanskrit Grammar in the Pāninian and Cāndra Systems*, Part I, Calcutta, 1972, pp. 164-66). The Paschimbhag copper plate inscription proves that the Cāndra system was quite popular in Bengal.

7 The total number of students belonging to the nine *mathas* was fifty. Of them, ten students studeied at the Brahma-*matha*. Ten *pātakas* of land were car-marked for defraying the expenses incurred towards their maintenance and use of writing materials (*pāli-ghuttak-ārtham*). Again, five *pātakas* of land were granted in favour of every fiive students attached to each of the four Vaṅgāla and four Deśāntariya *mathas*. The object here has not been clearly stated. It is presumable that the object was the same as had been the case with students of the Brahma-*matha*, i. e. to meet up the maintenance charges and educational expenses.

8 The term *deśāntaria* reminds us of the word *nānā-deśī*, mentioned in an inscription of the thirteenth century from Page (*Epigraphia Indica*, Vol. VII, pp. 197-98). The Paschimbhag copper plate inscription records the grant of land in a region which lay within the geographical confines of Samatata-Harikela. From Chinese accounts it appears that in the second half of the seventh century A.D. Harikela. was connected by maritime route with China on the one hand, and Ceylon, on the other (Beal, *Life of Hiuen-Tsang*, 2nd Edn, Delhi, 1973, pp. xi-xii, xxxix and xii). Arab geographers of the ninth and tenth centuries A.D. refer to the great port of Samandar, It belonged to the Samatata-Harikela region. For further reference to Samandar see B. N. Mukherjee, 'Commerce and Money in the Western and Central Sectors of Eastern India', *Indian Museum, Bulletin*, Vol XVII, pp, 65-83, According to Masudi, Maldives and Laccadives separated the sea of Lāta from that of Harkind and Ramani (Sumatra) was surrounded by Harkind and Salahat (Salahat of Malacca). Moti Chandra conjectures that Harkind was possibly named after Harikela (Moti Chandra. *Trade* and *Routes of Ancient India*, Delhi, 1977, p. 201). We can thus postulate the importance of Harikela to which belonged Samandar as a centre of international trade in the early medieval period as well as the cosmopolitan character of the population of Harikela. It is in this background that we can explain the existence of mathas for the foreigners (deśāntarīyas) in the Samatata-Harikela region. Construction of separate halls for students from abroad was not a rare phenomenon. King Bālaputradeva of suvarnadvipa built a monastery at Nālandā evidently for the students hailing from his own kingdom (Cf. the Nalanda copper plate of the reign of Devapāla, Epigraphia Indica, Vol. XVII, p. 318 ff.).

9. The temple of jaimini reminds us of that of Kapila at Gaṅgāsara, Kapila was the traditional founder of the Sāṅkhya system of Indian philosophy. No epigraph has yet been fonnd referring to the temple of Kapila at the mouth of the Gaṅgā Gaṅgāsāgara, however, is mentioned in the Purānas as a sacred place associated with Śaivism. The Skanda Purāna refers to the Amareśvara-liṅga which was carried from Gaṅgāsāgara to Vārānasī. King Nayapāla planted a golden triśūla there (D. C. Sircar, Śilā-leka Tāmra-śāsanādir Prasaṅga, Calcutta, 1982, pp. 102-23). The Tīrthasāra of Bhavadeva Nyāyālaṅkāra (Śaka 1651) refers to the temple of the sage Kapila at Gaṅgāsagara (Indian Historical Quarterly, Vol. XXII, p. 128).

10 D. C. Sircar, op. cit., pp. 85-101.

11 Mārkandya Purāna, 17, 11.

12 Journal of the Andhra Historical Research Society, Vol. IV, p. 157 ff.

13 For the history of the Siddhānta school see P. Jash, History of Saivism, Calcutta, 1974 pp. 18-34.

14 Reference to the Krşnādvaita-vādins, perhaps, indirectly bears allusion to the Śivādvaita-vādins. The chief axponent of the system of Śivādvaita was Śrīkanta. he was a contemporary of Rāmānuja (A.D. 1017 or 1037-1137). Mūrtiśiva lived during the reign of Naya pāla who reiqued in the fifth decade of the eleventh century. As such it is difficult to believe that he was conversant with the views of Śrīkantha. The Kŗşnādvita-vāda seems to be identical with the Advaita philosophy of the Vaişnavas represented more or less in a full-fledged from in the Bhāgavata Purāna (J. N. Farquhar, An Outline of the Religious Literature of India, Indian Reprint,Delhi, 1967, pp. 232-33).

15 Candī-guru may refer to a person who had founded a particular school or propagated a philosophy in which Candī was the principal factor. The preceding word deva, on the other hand, indicates that the term candīguru actually stands for Śiva. The entire expression would then imply a branch of the Śaiva philosophy which had become extinet its revival by Rūpaśiva. In that case, the philosophy of Candī-guru would signify a system in which the worship of the female principle had been given equal importance. It may be added that the Bangarh praśasti refers to the construction of a temple of Bhavānī within the complex of the Golagī-matha. The expression that visiting theis temple Śiva would have cherished the memories of his bride-chamber perhaps indicates the enshrinement of the image of Hara-Pārvatī.

16 *Linga Purāna*, 1, 77, 8-25.

17 D. C. Sircar, *op. cit.*, p. 90 (Cf. verse 9).

18 *Ibid.*, pp. 102-22.

19 See above n. 16.

20 An instance of the renovatinn of a dilapidated temple of Śiva is mentioned in the Haraha inscription of the reign of Iśānavarman (*Epigraphia Indica*, XIV, pp. 110-120).

21 P. Jash, *op. cit.*, pp. 18-24.

22 *Epigraphia Indica*, *Vol.* XXXIII, pp. 150-54.

23 *Ibid.*, *Vol.* XXXV, p, 225 ff.

24. *Journal of the Andhra Historical Research Society*, Vol. IV. p. 157 ff. The Malkapuram inscription refers to the Golākī-*maṭha* of the Dāhala country, situated between the Narmadā and the Bhāgīrathī. Sadbhāvaśambhu, the High Priest, received three lakhs of villages as gift from Yuvarāja I (c. 925-50 A.D.), the Kalacuri king.

25. *Epigraphia Carnatica*, 195, 223, 273, and 323 of 1905; 289 of 1930-31. The inscriptions refer to the Golakī-*maṭha* and the Śaiva *ācāryas* Śāntaśiva Dharmaśiva, Vimalaśiva and Viśveśvaraśiva who had been connected with the monastery from time to time.

26. The Benaras copper plate inscription of the reign of Karṇa refers to the Kalacuri rulers as meditating on the feet of *Parameśvara-Paramabhaṭṭāraka-Mahārājādhirāja-Śrī*-Vāmadeva (*Epigraphia Indica*, Vol. II, p. 297 ff). He has been identified with Vāmaśambhu, mentioned in the Malkapuram inscription as the successor of Somaśambhu (*Journal of U. P. Historical Society*, 1951-52, pp. 227-32). Vāmadeva has been mentioned in several epigraphs including the Khairah copper plate inscription of the time of Yaśaḥ-karṇa (*Epigraphia Indica*, Vol. XII, p. 210 ff.), Kumbhi inscription of Vijayasiṁhadeva (*ibid.*, Vol XXXI, p. 116), the Rewa inscription of the time of Jayasiṁha (*Indian Antiquary*, Vol. XVII, p. 246 ff.), etc. It appears that the Saiva *ācārya* Vāmadeva had become deified and the entire kingdom of the Kalacuris was dedicated in his honour. It led to the foundation of the cult of Vāmadeva in central India. For other views relating to the identification of Vāmadeva see V. V. Mirashi, *Studies in Indology*, Vol. II, pp. 52-53 and V. S. Pathak, *Saiva Cults in Northern India*, p. 48 ff. The immediate successors of Vāmaśambhu, *viz.* Śaktiśambhu and Kīrtiśambhu are mentioned in the Jubbalpur inscription as the royal preceptors of the Kalacuri rulers Gayākarṇa, Narasiṁha and Jayasiṁha (*Corpus Inscriptionum Indicarum*, Vol. IV, pt. I, p. 331 ff.). See also P. Jash, *op. cit.*, pp. 22-24

27. The Pāśupatas also had their monastic establishments. In eastern India there were *Pariṣads* of the Pāśupata *ācāryas*. They are mentioned in the Bhagalpur copper plate inscription of the reign of Nārāyaṇapāla (A. K. Maitreya, *Gauḍa-lekhamālā*, Rajshahi, 1319 B. S., pp. 55-69) and in the Mirjapur inscription of the time of Śūrapāla I (D. C. Sircar, *op. cit.*, pp. 213-18). We know of the Pāśupata preceptors Rudrarāśi (*Epigraphia Indica*, Vol. II, p, 13) and Bhavabrahman (*Indian Antiquary*, Vol. XVIII, p. 209 ff) who had under their supervision two Śaiva temples and the *maṭha* annexes.

28. *Rājataraṅgiṇī*, V, 28-29.

29. *Ibid.*, VI, 87. Yaśaskara presented the royal insignia to the Superintendent of the *matha* (*ibid.*, VI, 88).

30. D. C. Sircar, *op. cit.*, p. 92 (Cf. verse 29).

31. The tradition recorded in the *Siddhānta-sāravli* seems to bear allusion to the east-Indian campaign undertaken by the Cola emperor. The object was to carry away the sacred waters of the Gaṅgā in order to sanctify the Cola land. It is thus possible that the Śaiva *acaryas*, who accompanied the Cola general to south India, actually belonged to eastern India. The relation between the two sectors did not terminate with the Cola invasion. Viśveśvaraśambhu, who belonged to Dakṣiṇa-Rāḍha travelled to the south and became the preceptor of the Kākatīya ruler, According to the *Bṛhat-Gautamīya-Tantra* the Śaiva preceptors of Gauḍa and Kāmarūpa were inferior to those belonging to the West and the South (P. C. Bagchi, *Studies in the Tantras* Calcutta, 1939, pp. 17-18). Epigraphic materials, at our disposal, however, speak of the high status enjoyed by the Śaiva teachers of the Gauḍa country.

32. K. A. N. Sastri, *The Colas*, Madras, 1955, and edn., p. 484 ff.

33. *Ibid.*

34. Dr. N. Goswami, Curator of the Asutosh Museum of Indian Art, told me that an image preserved in his museum, bears a short inscription in which the concluding portion can be read as *mūrtiśiva.*

35. *Epigraphia Indica*, Vol. XXI, p. 1 ff.

36. For the history of the Paśupata sect, see R. G. Bhandarkar, *Vaisnavism, Saivism and Miuor Religions Systems*, Reprint, Delhi 1983, pp. 178-81. P. Jash, *op. cit.*, pp. 34-60 ; H. Chakroborti, *Pāśupata Sūtram*, Calcutta, 1970, pp. 9-46.

CONTRIBUTION OF JAINISM TO INDIAN HISTORY

Asim Kumar Chatterjee*

Jainism is one of the World's major religious systems, and it is older than either Buddhism or Christianity. Its contribution to the progress of our civilization is immense and there is no aspect of Indian history, which has not been enriched directly by the religion of the Jinas. For the purpose of discussion, let us divide the entire topic into five main divisions, namely, religious, cultural, social, economic ang political.

We have already said Jainism is older than Buddhism and I have shown elsewhere[1] that the first historical prophet of Jainism was Pārśvanātha, who probably flourished in the 9th-8th century B. C. A few earlier Tīrthaṅkaras like Ādināth and Neminātha, also probably were actual historical figures, but were not connected with thus religious system.

Both Jainism and Buddhism, as well as the Lokāyitakas, were against the Brahmanical religious system which was based on sacrifice or *Yajña*. But the three religious systems, which we have just mentioned, being anti-Vedic, were dubbed and Nāstika by the Brahmanical philosophers. The word *nāstika* dose not necessarily mean an atheist, but that which is anti-Vedic or in other words, anti-Brahmanical. The Jain philosopher Pārśvanātha, who probably had invented the word *nirgrntha*, it is quite significant to note, was born at Vārānasī, the great citadel of

---

* Dept. of Ancient Indian History & Culture, Calcutta University, Calcutta-700019

Hindusim, and had the courage to challenge the ancient Brahmanical philosophical system, and his teaching, based on fourfold truth, or vows, was quite simple, yet practical, and was readily accptable to the poor and common people. It should further be remembered that the Vedic form of sacrifice was very expensive and majority of the common people could not afford the expenses connected with those elaborate sacrifices, and only the kings and rich house-holders could perform these sacrifices. Another factor, which made this new religious system very popular, was its emphasis on non-violence or Ahiṁsā, which was also advocated by the Upanisadic Rṣis, whose emhasis was on Jñāna (knowledge) and not Karman.

Another factor, which should be considered as a definite contribution of the Jains in the progress of civilisation in this subcontinent, was the importance which it gave to the role of women in religious practices It is, however, true that even in the Vedic period, women used to participate in religious ceremonies, and in the *Bṛhadāraṇyaka Upaniṣād* we find Maitreyī accompanying her husband, the celebrated Yājñavalkya to forest, when the latter wanted to renounce the worldly life. Lord Pārśvanātha was the first non-Brahmanical saint to permit women to renounce the worldly life, and thus paving the way for the actual emancipation of women, It is significant to note, in this connexion, that even Lord Buddha himself was against admitting woman into his' Order. And only after he was requested by his favourite disciple Ānanda, that he allowed the entry of women in his Order. Therefore we can, say without hesitation, that Lord Pārśvanātha was a truly rational philosopher of his time. Since he had to popularise his teachings in a place, which was considered to be the chief seat of orthodox Brahmanism, we can easily comprehend the nature of his success.

Lord Pārśvanātha gave India the doctrine of Ahiṁsā and Lord Mahāvīra taught his countrymen, the doctrine of chastity (Brahma-carya). He never cared for royal patronage, and lived in absolute penury. It was because of his towering personality that Jainism became an all-India religion, even in the pre-Mauryan period.

The present writer is of tne opinion that the Yakṣnpūjakas of Eastern India were first to accept the religious system, propounded by Pārśva and Mahāvīra ; and these Yakṣa-worshippers belonged to the lewer starta of the society, and the deva-pūjakas were the upper caste Brahmins and Kṣatriyas. It, is however, true that all the immediate dieciples or gaṇadharas of Lord Mahāvīra were Brahmins by caste, but most of his followers were common people, and this is also proved by early Jain epigrphs, found from Mathura and other places.

From the cultural point of view also, Jainism has left its contribution on all aspects of the great Indian civilisation. The Jain Āgama texts often refer to 72 Kalās and 64 ganiyāguṇas. There is no doubt that all types of arts and crafts received tremendous patronage from the devoted Jains. As a matter of fact, the Jain narrative literature contains hundreds of stories about ladies, who were well-versed in all these arts, and the dramatic art was particularily popular from the earliest times among the Jains.

If literature is considered to be an integral part of culture then we must say that the literature of the Jains extremely rich and extensive. The Agamic texts themselves have great literatury value, and the works like the *Bhagavati Jñātṛdharmakathā*, *Vipakasruta*, *Uttarādhyayanasūtra* and *Daśavatkālika* are great and original literay products, and the last one composed by Brahmin Śayyambhava at Champa, around 400 B.C. can be compared with the *Bhagavadgītā* and the *Dhammadada.*

The story literature of the Jains can be compared with the literature of the Hindus. Even the Agamic texts are extemely attractive story-texts, and the *Jñātṛdharmakathā Vipākasruta* and the *Antagaḍadasā* etc, have innumerable stories, and even love-stories are also abundant. The two epics and the missing *Bṛhatkathā* have deeply influenced the Jain narrative literature and hundreds of Śvetāmbara and Digambara works were composed in imitation of the above mentioned Brahmanical texts.

The earliest non-Agamic Jain literary work, in the *Paumacariyam* of Vimala, composed in all probability, in the 1st century A.D. It is in our opinion the earliest Prākṛt work of India and probably somewhat earlier than the missing*Bṛhatkathā* of Guṇāḍhya. It is the Jain version of the *Rāmāyaṇa* and the poet has shown considerable originality in his treatement of the Rāma-story. Although Vimala has not cared to mention Vālmīki by name, he has scrupulously followed the original work ; however, everywhere there is a Jain bias. Later Jain *Rāmāyaṇas* like those composed by Raviṣena, Svayambhu, Hemacandra etc., are all based on Vimala's admirable work.

The *Māhābhārata* saga also has influenced the Jain, and we have in the *Vasudevahiṇḍī*, the *Harivaṁśa* (by Jinasena II) and the later *Pāṇḍavapurāṇas* the stories from the *Mahābhārata* and even Hemacandra, the great *Kalikālasarvajña*, was influenced by the original Mahabharata in the celebrated *Triṣaṣṭiśālākāpuruṣacaritra*- The *Bṛhatkathā* literature has left its mark on the works like the *Vasudevahiṇḍī*, the *Harivaṁśas*, *Bṛhatkathākaśa* etc. However, in all their literary works. the Jain writers have shown great skill and maturity.

However, the most original among the Jain writer of the medieval period was Somadeva, the celebrated author of the *Yaśastilakacampū*, written in the middle of the 10th century A.D. It is a great novel, composed by a writer, who was probably a native of Bengal. In some respect, we oancall him the Bānabhaṭṭa of the Jain literature. He has wit and a keen sense of humour and his knowledge of human character is unsurpassed in Śanskrit literature. His *Nītivākyāmṛta* proves his knowledge of the science of polity. It is the third great work on political science after the *Arthaśāstra* and *Kāmandakīyā Nītisāra*. We have also Jain writers, who have written on Astronomy, Mathematics and other branches of science. They have surely enriched our knowledge of different branches of science.

The Jain writers have surely contributed to our knowledge of Indian society in different periods. One great advantage of the Jain works is that they are mostly dated. This enables us to know the state of society in different periods. For example, the *Paumacaryam*, written 530 years after the *Nirvāṇa* ofLord Mahāvīra, gives us invaluable details regarding Indian society, the caste system, the family life etc. of the first century A.D. It also proves that cousin-marriage was quite popular, and particularly the marriage with the daughter of maternal uncle. This particular type of marriage, though censured by theauthors of Madhyadeśa. was unusually popular in the Deccan, the whole of Gujarat, Maharashtra and the Far South, and even the Hindu Vedāṅga writers have taken note of this. The *Vasudevāhiṇḍī*, a unique Prakṛt work, written in the Gupta period, throws welcome light on the society of this golden peoriod of Indian history. Again, the *Padmapurāṇa*of Raviṣeṇa, a dated work of the 7th century A.D., also throws welcome light on the social life of the Post-Gupta period. The *varāṅgacarita* of almost the same period, the *Hari-*

vamśa of Jinasena II, written in 783 A.D. The *kuvalayamāla* of Udyotana, written five years earlier in Rajasthan the *Upamitibhavaprapañcakāthā* of Siddharṣi written in 906 A.D., the *Dharmopadeśamāla* of Jayasiṁha, written in the third quarter of the 9th century, the 10th century texts like the *Tilakamanjarī* and the *Yaśāstilakacampū* all give us invaluable information regarding the Indian society of the early medieval period. We get details regarding social customs, popular festivals, the family-life, and above all, details regarding the position of women, the high degree of freedom, they enjoyed in life.

The Jain authors have, at the same time, supplied us information on economic life of ancient India. We have also information on various aspects of economic life in the *Aṅgavijjā*, a third-century text, written in Mahārāstrī Prākṛt, It is indeed impossible to overemphasise the great importance of this wonderful Jain work. A number of ancient coin-names, not found elsewhere, are preserved in this text. The two names here are particularly interesting, namely Ksatrapaka and Sateraka, The first is the type of coins, introduced by the Kṣatrapa kings of Ujjayinī, and second, refers to the Indo-Greek coins of Stater-type, There are very interesting references to the names of ships like Koṭṭimba, Tappaka and Saṅghāḍa, which are first mentioned inthe *Periplus* a Greek work, written by an unknown sailor, in the second half of the first century A.D. The *Aṅgavijjā* also gives details regarding the economic activities of that period. Other Jain work like the *Niśīthacūrṇi*, written in the 7th century, the *Harivaṁsa* of the 8th century and the *Yaśastilakacampu* of the 10th century, throw a flood of light on the economic activities of the post-Gupta and early medieval periods. The extremely interesting text, the *Dravyaparīkṣā*, written during the time of Ala-ud-din Khilji by Thakkura Pheru, is undoubtedly the only Iddian work dealing exclusively with coins. Ṭhakkura Pheru has not only mentioned the coins of the Guptas, but also of various early madieval dynasties like the Pratīhāras, Candellas, almost all the Caulukya kings of Gujarat, and also the coins of the Tomaras of Delhi. The coins of the Ṭomara kings like Anaṅgapāla, Madanapāla etc. are particularly interesting, because not much is known regarding these kings except that given in Pheru's work, and the *kharataragacchabṛhadgurvāvali*, another valuable Jain work.

But the most important contribution of the Jains was in the field of historical studies, and they have produced a number of first-class historians like Hemacandra Merutuṅga, Rājaśekhara etc., and other writers of Prabandhas Hemacandra's *Dvyaśrayakāvya* is one of the greatest works on Gujarat history, and it is the earliest. The first twenty chaplers, written in Sanskrit, are on Kumārapāla's predecessors, and the last eight chapters, in Prākṛt, are on Kumārapāla's activities. Welcome light has also been thrown on great kings, ruling outside Gujarat, like the Malava king Bhoja, Cedi king Karṇa etc. Being a contemporary and Guru of Kumārapāla, the author has given us minutest details regarding the religious and political activities of that great Jain emperor. Much more comprehensive, in scope, is the history of Merutuṅga,called *Prabandhacintoāmaṇt*, written in 1305 A.D. It is undoubtedly a great historical work after Kalhana's *Rāj at araṅginī*, although us worth has often been underestimated. The account of earlier kings like Vikramāditya, of tradition, is somewhat fanciful ; but from V.S. 802, which is the accession date of Vanarāja, his history is authentic, and is confirmed by other literary and epigraphic sources. The name of Muñja's ministar, namely Rudrāditya, given by him, is confirmed by contemporary epigraphs, and the details on the struggle between the Mālavas and the Cālukyas of Kalyāṇa, are also fully confirmed by epigraphs. The tragic end of great Muñja has been recorded by him. Another interesting information is regarding the Bengal king Lakṣmaṇasena and his poet-minister whose name is found in the famous Deopara Praśasti of the Sens. The defeat of Paramardin by Pṛthvīraj has been mentioned by him, and is confirmed by epigraphy. However, the date of the destruction of Valabhī has been incorrectly given by him as V.S. 375, the actual date V.S. 845, has been supplied by another Jain work, namely the *Vividhātīrthakalpā* of Jinaprabha. His account of the Caulukya and Veghela dynasties is flawless, and so is his account of the two great minlsters, namely Vastupāla and Tejahpāla. The *Prabandhakośa* of Rājaśekhara, written in 1347 A.D., is another interesting work of history, although its auther does not stand comparison with either Hemacandra or Merutuṅga. There are some fanciful details, However, interesting light has been thrown on the political relationship between Jayacandra of Kānyakubja and Lakṣmaṇasena of Bengal. It, however, incorrectly makes the great Bhadrabāhu, the son of a Brahmin of Pratṛṣṭhāna. The correct information is found in a much earlier work, namely the *Bṛhatkathākoṣa,* witten in 931 A.D. which represents this savant as the son of a Brahmin of Devokoṭṭa in Bengal.

A very interesting work, which is actually a geographical treatise, is the *Vividhatīrṭhakalpa* of Jinaprabha, written between V.S. 1364 and 1389. It is of great significance to note that Jinaprabha was honoured by even the Muslim emperor Muhammad Bin Tugluq. Some dates, given by him are absolutely correct, namely the date of the destruction of Valabhī, of Som nath and the date of Pṛthvīrāja's defeat and death has also been correctly given, and because of the information, supplied by him that we have been able correctly identify the ancient city of Mithilā.

Another medieval Jain work, namely the *kharataragaccabṛhadgurvāvalī* is of supreme importance, for both the students of history and geography, and it also yields the details regarding the activities of some little known kings, and it also tells us about the atrocities, committed by the Muslim rulers in Northern India, and the details regarding them given in this and other Jain text, fully tally with those given by the Muslim historians. Those modern historians who have tried to whitewash these Muslim invaders, must go through these contemporary Jain accounts, and only then they will be able to comprehend the enormities cmmitted by thosc perfidious Muslim conquerors.

The Jain epigraphs also contribute not a little to our knowledge of ancient and medieval India. We have Jain inscriptions from the daps of Khāravela (1st century B.C.) to the days of Akbar the great, and even afterwards. Among the important Jain inscriptions, we may mention the Hathigumpha inscription of Khāravela, the Mathura inscrsptions, Paharpur Digambara inscription from the Rajshahi District, Bangladesh, the Aihole Praśasti of Ravikīrti, etc. More than five thousand Jain epigraphs have so far been published, and nearly 100,000 epigraphs still remain unpublished.

In the field of Art also, the Jains have contributed a lot. The earlier temples have almost disappeard, but thousands of medieval Jain temples still exist with all their glory in Gujarat, Rajasthan and parts of other states of Northern India. In South India, we stiil have many standing Jain temples, especially in Karnatak and Tamilnadu. We have Jain sculptures from the 1st century B. C. upto the present time, and a few thousand such sculptures are preserved in different museums of India.

NOTES

1. A. K. Chatterjee, *A Comprehensive History of Jainism*, Vol 1. Calcutta, 1978, pp. 6ff.

FLUTE ON INDIAN COINS

Samaresh Bandyopadhyay*

Flute 'generically all wind instruments that are edge-vibrated'[1] and specifically the wood-wind instrument consisting of a hollow cylinder stopped at one end and with a side embouchure[2] is not only one of the most ancient of musical instruments of the world but is also one of the commonest. In fact, this aerophonc class of instrument froms 'a part of every musical system we know of from the most primitive people to the most sophisticated civilisations''[3] its from being more or less the same throughout the world and remaining unchanged all through the ages.

'The flute belongs to India from time immemorial'[4] and it is referred to as *veṇn*[5] in the *Rgveda* and other vedic works which record its use 'as an accompaniment' to vedic recitations along with *vīṇā*. The material most commonly used[6] for making flutes being easily perishable quite justifiably no flute made of such material has as yet been reported from any Indian site belonging to ancient times, nor do we get independent representation of flute perhaps for the reason that flute always sequires someone for being played on. However, flute is seen to be represented as being played on by male or female musician in the accompaniment of other musical instrument in scenes of musical entertainment noticeable in the stone reliefs of Sanchi, Amaravati and Gandhara.[8]

"Still must I like a homeless bird
Wander, forsaking all ;

---

* Dept. of Ancient Indian History and Culture, Calcutta University, Calcutta-700019.

The earthly loves and worldly lures
That held my life in thrall,
And follow, follow answering
The magical flute-call".[9]

Indeed, the call of the mystically fascinating flute acts like magic in the Indian mind and though no reference to flute placed in the hands of Kṛṣṇa or being played on by him has hitherto been traced in early texts[10] like the *Mahābhārata*, *Harivaṁśa* and *Viṣṇu Purāṇā*,[11] telling the tale of Kṛṣṇa's life, it is mentioned as a 'fortunate instrument drinking the nectar from Śrī Kṛṣṇa's lips' in the *Bhāgavata Purāṇa*[12] which contains a very vivid description of how listenting to the irresistible music—not simply a melody but the call of the divine to rejoin God in eternal bliss—flowing from the playful cowherd Kṛṣṇa's flute, endowed with the same spell, the same beauty, the same ineffable sweetness, grace and captivation as the god himself'[13] the cowherdesses (*gopīs*), symbolically human souls, with their minds already absorbed in impassioned devotion—expressing perfectly the ideal of *bhakti*—rushed to the forest to meet Kṛṣṇa not bothering at all of self, or family responsibilities, or of societal conventions whatsoever',[14]

It is no wonder that the fascinating theme of flute-playing Kṛṣṇa with or without *gopīs* did not take much time to attract the attention of the artists and even if one is not very sure about the dating of the depiction of the theme in the right inner *pradakṣiṇa* of the Lakṣmaṇa temple at Khajuraho,[15] its occurrence on the obverse of a type of copper coin[16] of the Colaking Rājarājal (A.D. 985-1016 A.D.) leaves little room for doubt that from the time of Rājarāja I onwards it formed a favourite theme of numerous lithic, wooden and metallic sculptures and paintings.[17] The depiction of the interesting theme on Rājarāja I's coin

(Plate 27. 1-2),[18] though is known for more than a century now, has, however, not been referred to in most publications[19] on Kṛṣṇa's life or on other coins[20] containing the figure of Muralīdhara Kṛṣṇa. The occurrence of the flute on this coin type also does not find any mention in the recently published brief survey of muscial instruments on Indian coins by B. N. Mukherjee.[21]

The instrument being played on by the 'Cowherd king' Kṛṣṇa though became extremely popular to provid, in subsequent times, inspiration for literary compositions and innumerable sculptures and paintings, on no coin of the time between Rājarāja I and the Tripurā king Anantamāṇikya it has as yet been noticed. The type of round silver coin of Anantamāṇikya, son of Vijayamāṇikya, depicting flute-playing Kṛṣṇa flanked by two *gopīs* is dated Śaka 1486 (A.D. 1564) and is extremely interesting in view of the fact that it gives the name of the king as *Śrī Śrī Yuta Ananta Māṇikya Deva*[22] unlike his other coins quoting the name of the king in the form *Śrī Śrī Yatānanta Māṇikya Deva.*[23] Like his Viṣṇu being raised by Garuḍa reverse silver coin type of the same year,[24] this coin type (Pl 27. 3)[25] of Anantamāṇikya, 'a fine example of highly skilled minting technique by manual labour adopted in Tripurā and rarely seen in contemporary coins of Eastern India',[26] also does not depict the usual device of the 'Tripurā lion'.

Further, flute being played on by Kṛṣṇa above the usual device of a 'Tripurā lion' forms the reverse device of three types of silver coins,[27] all dated in Śaka 1522, of Yaśodharamāṇikya, son of Rājadharamānikya, of the same dynasty of Anantamānikya of Tripurā. Of these the type mentioning the name of the queen Laksmī has only one *gopī* to the left of Kṛṣṇa, while on the other two types, mentioning either the queens Lakṣmī and Gaurī or the queens Lakṣmī, Gaurī, and Jayā, Kṛṣṇa is flanked by two *gopīs*. Iconograbhically interesting Muralīdhara is, however, 'rudimentary in appearance and character' on Yaśodharamāṇikya's coins on which the figure is 'actually a combination of lines and dots only' and the 'stiffening of plastic volume'[28] which is seen on the stone sculptures of the Māṇikyas, is also noticeable here. The type of coin with the names of the queens Lakṣmī, *Gaurī* and Jayā is illustrated here (Plate 27. 4).[29]

Strangely enough, the depiction of flute on the coins of Anantamāṇikya and Yaśodharamāṇikya has not been noticed by B. N. Mukherjee in his treatment of the musical instruments on Indian coins referred to above.

Flute-playing Kṛṣṇa has also been found to form the reverse device of certain gold coins (Plate 27. 5-7)[30] of some Manipur kings. Thus, reference may be made to the coins of Mārajit Siṁha (A.D. 1812-1819)[31], Jaya Siṁha (A.D. 1821-1822)[32] and Nara Siṁha (A.D. 1834-1850).[33] The figure of flute-playing Kṛṣṇa seen with Rādhā at his left on the coins of Jaya Siṁha and Nara Siṁha and the execution of the figure of Kṛṣṇa depicted to stand in the tribhaṅga pose on coins of all the three kings is very beautful indeed. The coins which have very distinct legends also show a string tied to the flute.

It is not intelligible at all how the beautifully depicted flute on the coins of these Manipur kings has been described as 'lute' by B. N. Mukherjee.[34] A lute, as is well known, is a chordophone class[35] of musical instrument, whereas a flute belongs to the aerophone class[36] thereby leaving hardly any scope for confusion. *

NOTES

1 *Encyclopaedia, Britannica* Vol. 9, 1965. p. 497.

2 *Webster's Seventh New Collegiate Dictionary*, Unabridged Indian Edition, Calcutta, 1969, p. 322.

3 Cf. B. Chaitanya Deva, *An Introduction to Indian Music*, New Delhi, 1973, p. 55.

4 Cf. *The New Oxford History of Music—Ancient and Oriental Music*, (Wellesaz Ed.) Vol. I, p. 222 ; O. Goswami, *The Story of Indian Music*, Bombay, 1961, p. 307; also K. Krishna murthy, *Archaeology of Indian Musical Instruments*, Delhi, 1985, p. 67, note 1.

5 It is mentioned in a Vālakhilya hymn in a *Dānastuti* of the *Rgveda* (VIII. 55, 3), where, according to Roth (*St Petersberg Dictionary*, s. v. 2) flutes of reed' are meant, a sense in which *veṇu has been* used in later text (cf. A.A. Macdonell and Keith, *Vedic Index of Names and Subjects*. First Edition, London, 1912, Reprint, Delhi, 1958, 1967, 1982, p. 324 and also Monier Monier-Williams, *A Sanskrit-English Dictionary*, Indian Institute, Oxford, 1899, p. 1899, p. 1014 where reference has also been made to its mention in the *Mahābhārata* and other texts Flute was an important instrument played on in religious ceremonies and 'the flautist was one of the victims of human sacrifice in *Puruṣamedha-yajña* ritual' (cf. B. Chaitanya Deva, *op. cit*., p,55). Citing *Vājasaneyi Saṁhitā*, XXX. 20 and *Taittirīya Brāhmaṇa*, iii. 4, 15, 1, K. Krishna Murthy (*op. cit*., p. 4 and p. 15, note 19), however, states that 'vīṇāvāda,' flute-player, is included in the list of victims at the *puruṣamedha* (human sacrifice)'. Cf. also Samaresh Bandyopadhyay, 'Veṇugopāla on Indian Coins', *Bhārati*, No. 18, Varanasi, 1989.

6 Besides bamboo, the most common material, sandal wood, *khadira* wood (*acasia catech*), black wood and cane have been found to be used for making (flutes. For other materials used for making flutes and various names by which flutes are knon in North and South India, see B. Chaitanya Deva, *op. cit*., pp 55-56.

7 Clay whistles have, however, been discovered from Mohenjodaro (*ibid*., p 55).

8 K. Krishna Murthy, *op. cit*., p. 59.

9 Sarojini Naidu, *The Sceptred Flute*, Kitabistan, 1946, p. 161.

10 Cf. *Kṛṣṇa the Divine Lover*, ed. A. L. Dallapiccola, New Delhi, 1982, p 116

11 According to W. M. Spink (*ibid.*, p. 107) 'despite the evidence which shows that at least some portions of Kṛṣṇa / Vāsudeva's biography were well established by the second century B. C., the first consistent codification of Kṛṣṇa's enlarging story is to be found in texts which can be ascribed to about the fifth or sixth centuries A.D…The first of these was probably the *Harivaṁśa*, or Genealogy of Hari (i. e. Vṛṣṇu and/or Kṛṣṇa), which forms an appendix or addition to the *Mahābhārata*' In its opening section (see its Eng. Tran. by M.N. Dutta Calcutta, 1897, Chapter I, Verses 5-9), 'the sacred biography is requested, and is consequently given careful treatment in the text, just as it is in the very similar *Viṣṇu Purāṇa*, a composition of approximately the same date'.

Though Spink assigns the *Harivaṁśa* to about the fifth or sixth centuries A.D elsewhere in the same work *Kṛṣṇa The Divine Lover* (p. 174), K. Vatsyayna states that the latest date suggested for the work is third centry A.D.

For a summary of the life-story of Kṛṣṇa, as narrated in the *Mahābhārata*, *Harivaṁśa* and the *Viṣṇu Purāṇa*, see *ibid* pp. 104-116).

A maker of images of Śrī-Kṛṣna and the milkmaids is referred to in a Pabhosa inscription (*Epigraphia Indica*, Vol. II, p. 482), The *Bālacarita* attributed to Bhāsa who was a predecessor of Kālidāsa (*c.* A.D. 400), is one of the earliest poetical compositions (cf. quotations in the *Mahābhāṣya* from a work on the *Kaṁsa-vadha* episode) dealing with Kṛṣṇa's early life. In the work Dāmodara and Saṅkarṣaṇa are described as *Vṛṣṇikumāras*, Kaṁsa, king of Mathurā, as *Śaurasenī-mātā* ('one whose mother is a Śūrasena girl') and Vasudeva as *Yādavī-mātā*. The work asso speaks of Dāmodara's foster parents, Nanda-*gopa* and Yasodā or Nanda-*gopī*, of his relations with the *gopīs*, but not of his questionable actions. A Mathurā sculpture depicting Vasudeva carrying the baby Kṛṣṇa in a basket across the Yamunā is beleved to be of the Kuṣāṇa period (*Archaeological Survey of India*, *Annual Report*, 1925-26, pp. 283-284, Plate XVII. fig. c ; cf. also *The Cultural Heritage of India, Vol. IV—The Religions*, ed. Haridas Bhattacharyya, 2nd Edition, Calcutta, 1956, p. 123, note 47). The representation of the two other episodes of Kṛṣṇa's life—the subjugation of the snake Kālīya and the killing of the bull-demon Ariṣṭa—are also believed to belong to the Kuṣāna period (cf. *Kṛṣṇa the Divine Lover*, p. 145).

12 *The Śrīmad Bhāgavatam* (Eng. Tran. J. M. Sanyal, 5 Vols., 2nd Edition, Calcutta, without Year of publication), X. 29, pp. 119-120. Spink (cf. *Kṛṣṇa The Divine Lover*, pp. 109, 115) and Vātsyāyana (*ibid.* p. 174) assigns the *Bhagavata Purana* to about the tenth century A.D., though in the same work (p. 144) Karl J. Khandalavala takes it to have been written in about the ninth century A.D. K.A. Nilakanta Sastri (*A History of South India*, Fourth Edition, Madras, 1976, p 342) regards it to be a composition of South India of about the beginning of the tenth centry A D. and in the *Encyclopedia of Religion, Vol, 8* (New York, 1987, p. 385), it has been assigned to the ninth century A.D. P. Pal (*Kṛṣṇa: The Cowherd king*, Los Angeles County Museum of Art, 1972, p. 3) takes it to be a text 'probably redacted in the Tamil country sometime before A.D. 900' While R. C. Majumdar (cf. *The Cultural Heritage of India. Val. IV—The Religions*, 2nd Editions, 1956. p. 53) states that 'the date of the *Bhagarata puraga* is uncertain' and 'the various dates suggested range from the seventh to the ninth century A D ; according to B. B. Majumdar (*Kṛśna in History and Legend*, University of Calcutta, 1969, pp. 64-65), however, 'If in ascertaining the date of the *Bhagavaṛa* all the literary and sculptural evidences are taken into account it miget not appear unreasonable to hold that the *Purāṇa* took its present shape near about the sixth century A.D., Long before B,B. Majumdar, R. C. Hazra (*Studies in the Puragic Records of Hindu Rites ond Customs.* University of Dacca. Bulletin No XX, 1940, p. 55, foot note 97) pssigned the work to the first half of the sixth century A.D.

13. *Kṛṣṇa The Divine Laver*, p. 19.

14. *Ibid.*, p. 117.

15. Urmila Agrawala, *Khajuraha Sculptures* and *Their Significance*. p. 39 ; B B. Majumdar *op. cit.*, pp, 77-78 ; P. Banerjee, *The Life of Krsna in Indian Art*, New Delhi, 1978, p. 108.

16 Walter Elliot, *Coins of Southern India* (*The International Numismata Orientalia*, Vol. III, Pt.II, London, 1885-86, Varanasi Reprint, 1970, pp. 133 152G and Plate IV. 164 ; *The Tamilian Antiquary*, 1914, pp. 18-19 and Plate II. 121 ; *Annual Report of the Mysore Archaeological Department for the Year* 1934, Bangalore, 1936, Part III (Numismatics), p. 63, and Plate XVIII. 16 ; C. H. Biddulph, *Coins of the Colas*, The Numismatic Society of India Vāranasi, 1968, pp. 13, 52 and Plate IV. 34-35 ; B. D. Chattopadhyaya, *Coins* and *Currency Systems in South India, c. A.D.* 225-1300, New Delhi, 1977, pp. 247-248 ; G. Kuppuram, 'A Fresh Survey of the Cola Coinage in

South India (A.D. 850—1300), *The Journal of the Numismatic Society of India*, Vol. XIV, Parts I-II, 1983, p. 169.

17 P. Banerjee's work, referred to above, has 15 illustrations of flute-playing Kṛṣṇa from sculpture and painting from different parts of India assigned to the period between *c*, 10-11th century A.D. and the 19th century A.D. and the work entitled *Kṛṣṇa the Divine Lover has* 25 assigned to the period between *c*. 12th century A.D. and the 19th century A.D K. J. Khandalavala has, however, published (cf Sh. C. Sivaramamurti Commemoration Volume entitled *Kusumāñjali—New Interpretation of Indian Art and Culture*, edited by M.S. Nagaraja Rao, Delhi, Vol. II, 1987, pp. 336-338) an image of Venugopāla bearing the date *Saṁvat* 1504 (A.D. 1448) on its pedestal and observed that 'this is the earliest image of Veṇugopāla so far known.' The observation mayseem correct in Western Inian context, in certain other parts of India Veṇugopāla became popular definitely much earlier, as is apparent from its representation on Rājarāja I's coin type referred to above and also from other sculptures and paintings referred to in the beginning of this footnote. An image of Veṇugopāla in relie from udipi assigned to *c*. 8th-9th century A.D. is considered to be 'the earliest of its kind in South India' and 'one of the earliest Kṛṣṇa images in Karnāṭaka (P. Gururaja Bhatt, *Studies in Tuluva History and Culture*, 1975, p. 315 and Plate 220.

18 Enlarged reproduction from C.H. Biddulph, *op. cit.*, Plate IV. 34-35 (obverse only).

19 Neither the work of B.B. Majumdar cited above, nor the work entitled *Kṛṣṇa the Divine Lover*, referred to above, contains any reference to the interesting coin type of Rājarāja I or to other coins depicting the theme, to which attention has been drawn below and although P. Banerjee (*op. cit.*, p. 119) has referred to the coin type of Rājarāja I, he has however, wrongly stated that 'this may be the forerunner of the same device on the coins of the Vijayanagara kings' for, as it may be pointed out, on no coins of the Vijayanagara kings the depiction of Muralidhara Kṛṣṇa has as yet been noticed (cf. N. Ramesan, *Andhra Pradsh Government Museum Series*, '*No. 4—A Catalogue of the Vijayanagara Coins in the Andhra Pradesh Government Museum*, Published by the Government of Andhra Pradesh, Hyderabad, 1962 ; A. V. Narasimha Murthy, *The Coins of Karnataka*, Mysore, 1975, pp. 139-175 ; *Catalogue of Vijayanagara Coins in the Government Museum at Madras*—issued as the *Bulletin of the Madras Governmeut Museum*, New Series—General Section, Vol. XIV, No. 1, 1977 : A. Subramanian, 'Vijayanagara Coins in the Madras Government Museum. A Reappraisal',

The journal of the Numismatic Society of India, Vol. XLI, 1979, Parts I-II (issued) in April, 1981), pp. 67-74 ; N. Sankaranarayana, 'Recent Treasure Trove Find of Vijaynagar Coins from Kattukurichi', *ibid.*, Vol. XLIII, Part II, 1981, pp. 77-79 ; A. V. Narasimha Murthy, 'Gods and Goddesses on the Coins of Karnataka', *ibid.*, Vol. XLIV, Parts I-II, 1982, pp. 171-179 ; T Dayananda Patel, 'Representations of Gods on the Vijayanagara Coins', *ibid.*, Vol. XLVI, 1984, pp. 113-117.

20 As we shall see below, V. Chowdhury, Parimal Roy, A. N. Lahiri, Ratna Das, J. Acharjee, S.K. Bose and Bela Lahiri have dealt with such coins, but no reference to the device on the coin type of Rājarāja I has been made by any one of them.

21 *The journal of the Numismatic Society of India*, Vol. XLVIII, Parts I-II, 1986, pp. 121-122.

22 *Ibid.*, Vol. XLVII, Parts I-II, 1985, p. 49 and Plate V. 6 ; *ibid.*, Vol. XLVIII, Parts I-II, 1986, pp. 66-67 and Plate IV. 19.

23 *Journal of Ancient Indian History*, Vol. III, Parts 1-2, 1970, p. 28 and Plate XII. 6.

24 *Ibid.*, p. 28 ; cf. also R.C. Majumdar's *History of Mediaeval Bengal*, Calcutta, 1973, p. 351.

25 Enlarged reproduction of the coin, the photograph of which has been received from Sri S. K. Bose of the State Bank of India Staff Training Centre, Laitumkhrah, Shillong, to whom my sincere thanks are due.

26 *The Journal of the Numismatic Society of India*, Vol. XLVIII, Parts, I-II, 1986, p. 67. Both S. K. Bose (*ibid.*, p. 67) and B. Lahiri (cf. *Studies in Ancient Indian History*, D. C. Sircar Commemoration Volum) entitled *Sraddhānjali* (sic), edited by K. K Dasgupta and others, New Delhi, p. 267) wrongly regard Anantamāṇikya as the introducer of the device of flute-playing Kṛṣṇa on coins, since as noted above, no notice has been taken by them of the depiction of the device on the coin type of Rājarāja I, discussed above.

27 R. C. Majumdar, *op. cit.*, p. 351 ; cf. also *Studies in Ancient Indian History* (D.C. Sircar Commemoration Volume) entitled *Sraddhānjali* (sic), edited by K. K. Dasgupta and others, New Delhi, 1988, p. 267. On these coins, the king's name on the obverse, however, occurs as Yaśomāṇikya and not as Yuśodharamāṇikya, as has been mentioned by A. N. Lohiri (*Coinage and Economy of North Eastern States, of India*, edited by J. P. Singh and N. Ahmad, Varanasi, year of publication not mentioned, p 155 ; cf. also *Nalinikānta Śatavārṣiki*—Dr. N. K. Bhattasali Volume, edited by D. Mitra and G. Bhattacharyya, Delhi, 1989, p. 221).

28 Cf. *The journal of the Numismatic Society of India*. Vol. XLI, Parts I-II, 1979, p. 117.

29 Reproduced from R. C Majumdar's *op. cit.*, last Plate, Coin No. 3.

30 Enlarged reperoduction from Plate VIII. 2nd 5 and Plate IX. 1 of the *Coinage and Economy of North Eastern States of India*, edited by Singh and Ahmad Varanasi, year of publication not mentioned.

31 *Ibid.*, p. 108 and Plate VIII. 2.

32 *Ibid.*, p. 109 and Plate VIII. 5.

33 *Ibid.*, p. 110 and Plate IX. 1.

34 He states 'rṣṇa is represented as playing on a lute on coins of some king of Manipur'. He also states that 'the lute has a string tied to it and hanging down from it' (*The journal of the Numismatic Society of India*, Vol. XLVIII, Parts I-II, 1986, P. 122).

35 In fact, lute belongs to the 'Plucked' varicty of this class, the other instruments of this verlety being guitar and cittern ; the 'Bowed' varicty of this class includes violin, viol and tromba marina and the 'Bowed' Wheel' variety hurdy-gurdy (*Encyclopaedia Britannica*, Vol. 15, 1965, p. 1084).

35 *Ibid.*, p. 1084.

* My sincere thanks are due to Sri Sankar Pal, for typing out the press-copy of this article.

List of Plates

Pl. 27

AMBARI—AN IMPORTANT WORKSHOP OF MEDIAEVAL ART

R. D. Choudhury*

Ambari in the heart of the city of Guwahati has presented a good number of sculptures to the art historians of the country. The Ambari archaeological site, to the east of the Assam State Museum, has become welknown to the archaeologists and the art historians as an important art centre of the post Pāla period. In 1969 the plot of land, over which presently the excavation is going on, was aquired by the Reserve Bank of India for constructing its own building. In the same year, while digging for the foundation of the proposed Reserve Bank building quite a few stone images belonging to different Brahmanical deities were discovered along with debries. The local press gave publicity to the discovery of these images and as a result, public opinion compelled the Government of Assam to allot a different plot of land to the Reserve Bank of India and hand over the plot of land in question to the Directorate of Archaeology and Museums, Assam, in 1970. In the beginning of 1970 H.D. Sankalia visited the Ambari site and offered his advice to complete the excavation in a phased manner.

Towards the end of 1970 M.C. Goswami and T. C. Sarma, both of the Gauhati University, started the formal excavation at the site in collaboration with the Directorate of Museums and Archaeology, Assam. Sankalia deputed M.K. Dhowlikar and Z.A. Ansari from the Deccan Dollege, Pune, to Guwahati to join the excavation camp. Both of them helped Goswami and Sarma in the excavation work. The excavation continued up to April, 1971.

---

* Directorate of Museums, Assam, Guwahati-781017

During this phase of excavation a large number of icons were found at the site. A good number of icons representing Viṣṇu, Sūrya, Gaṅgā, Yamunā, Sivaliṅgam, etc. were found during the excavation. The images discovered in 1969 and 1970-71 can be grouped into two, according to their size. The smaller ones measure approximately 25 cms × 15cms. The smaller ones may be taken as Series I, while the bigger ones may be taken as Series II. The images of Series I representing various deities are as follows :

Viṣṇu—4 Nos. (One image is in the Anthropology Dept., (*abv.* GU) Gauhati University and two (25 × 12 cms) are in the Assam State Museum) (*abv.* ASM)

Mahiṣamardinī—10 Nos. There images are in the Anthropology
(25X15 cms) Dept., G.U. while rests are in the ASM.

Sūrya—3Nos. One image is in the ASM, while two are in the
(25X12 cms) Anthropology Dept. G.U.

Sivaliṅgam—4 Nos. Two images are in the ASM, while two
(13 cms in hight) are in the Anthropology Dept., G.U. Two
Sivaliṅgas are without *Yonipītha.*

In addition to these images, one broken sculpture representing the Gaja-Vyāla motif was discovered. It is excavated on a piece of black basalt. Another sadly mutilated image possibly representing Manasā is also carved on a piece of black basalt.

Series II includes the following

Viṣṇu	—9 Nos.
Sūrya	—3 Nos.
Naṭarāja	—1 Nos.
Gaṅgā	—1 No.
Yamunā	—1 No.
Ṛṣi	—4 Nos.
Agni	—1 No.
Sivaliṅgam	—12 Nos.
Nandi	—4 Nos.
Broken Pilla	—1 No.

All the icons are in the A.S.M. except a Sivaliṅgam and a figure of Nandi which are in the Anthropology Dept. of G.U.

In addition to these stone sculptures, one very beautiful terracotta piece representing a female figure, was discovered. It is now in the Anthropology Dept., G. U. But this terracotta is sadly mutilated.

After 1971 no excavation was done at Ambari till 1987. After a long gap of about 16 years, the excavation at the site was resumed under the direction of T. C. Sarma. Still the excavation is going on at the site.

In 1987-88 three trenches were dug up to the depth of 8. 6″ In addition to potsherds, 16 different kinds of pots, 150 varieties of earthen lamps and 133 stone images were found. The excavation has also revealed 40 miniature earthen Sivaliṅga 44 Yonipīṭha and 2 *Gajavyāla* images. The Sivaliṅgas and Yonipīṭhas are miniature in size and they are made of clay, while the images of Gajavyālas are depicted on stone. All other stone images numbernig 133 may be grouped in Series I considering their size. The images discovered at the site represent Sūrya, Viṣṇu and Mahiṣamardinī. The number of stone Sivalṅgas is 45. During the course of excavation, about 30 decorated or partially decorated stone blocks including a stone lab for sharpening the chisels were also found. During the excavation in winter season in 1987-88 up to 7th layer could be dug. Stone images and also other sculptural materials were found in the 5th layer.

In this season (1988-89) digging in two trenches have been completed. In these trenches a beautifully decorated disc, 20 broken terracotta figures and potsherds were found. Two miniature Sivaliṅga and also a big image of Sūrya have came to light. The stone image of Sūrya may be grouped in Series II of the Ambari sculptures. Till now digging up to the 4th layer only has been done.

An examination of the stone sculptures found at Ambari shows the following : (1) It is found that the icons are of the same style. One image of Sūrya is four armed, which is an uncommon feature. Above the heads of Gaṅgā and Yamunā images serpent hoods are shown. Although serpent hood is not normally found over the head of the river goddesser, in Assam some immage has been discovered having this feature. An image of Indra, preserved in the A.S.M., has a hood of surpent over the head of the god.

(3) All the sculptures from Ambari bear the pre-Ahom style. It is interesting to note that not a single sculpture from the site bear Ahom, Koch or Kachari style which flourished in the late medival period. From the sculptures, discovered in various places of Assam, it can be concludee that the sculptural art in Assam reached its zenith by 12th century. But the Ambari sculptures do not have the master pieces except the huge image of Naṭarāja, which is considered as one of the best stone sculptures depicting Śiva in his dancing posture. Ambari stone sculptures are devoid of lavish ornamentation. Though the steles of the images are pointed, yet they are not fully decorated.

(1) The excavation at Ambari shows four different cultural phases. (a) British period. (b) Moghal-Ahom period (c) Pāla period i. e. 10th-13th cent. and (d) pre-Pāla period (?)

(4) The images bear short inscription in characters belonging to the 13th century.

(5) All the sculptures were found lying horizontally under the earth. Although traces of some brick construction of wall have been found, no trace of temple construction has come to light. The position and the depth in which the sculptures were found lead us to think that the sculptures or the images were not stuck into the walls of the temple. They were lying in different places of the site. This shows that Ambari must have been a

workshop from where finished sculptures were despatched to various places.

(6) The long tank (Deghalipukhuri) near the site must have onc been a channel of the Brahmaputra, which was profitably utilised by the authors or the artisans of Ambari.

The site has not yet been completely excavated. It may take some years to complete the excavation. After completion of the excavation certainly we will be able to know many more things about the hidden past of Prāgjyotiṣapura, the ancient city of the East. No doubt Ambari workshop will throw new light after the completion of the excavation. The Paper was read in seminar on 'Early Mediaeval Art of India'' Organised by Lucknow State Museum, Lucknow from 11th to 15th January 1989. Since then more sculptural pieces have been unearthed during the excavation at the site.

List of Plates

Pl. 28 : General view of Ambari Archeological site. The Trences are under water. The Photograph was taken recently, in the rainy Season.
Pl. 29 : A view of a Trench, Ambari Archeological Site
Pl. 30 : Ambari, C. 12th Cent. Stone
Pl. 31 : Rishi, Ambari, Stone, C. 13th Cent.
Pl. 32 : Ambari, Stone C. 13th Cent.
Pl. 33 : Yamuna, Ambari, Stone, C. 13th Cent.
Pl. 34 : Ganga, Ambari, Stone, C. 13th Cent.

AN APPROACH TO THE EROTIC SCULPTURE OF THE RAMAPPA TEMPLE

M. Krishna Kumari *

Erotic sculpture appears on the temples as a decorative motif. It appears that like the *pārśva devatās*, erotic imagery seems to be an obligatory decorative device, which must have had the sanction of the sacred texts. Several studies[1] have been made on the erotic sculpture of India, its nature and significance with special reference to the temple art of Khajuraho, Konarak and other Orissan temples' where one encounters with a large number of *mithuna* images. From these studies it is clear that the erotic figures appear on most of the temples from A.D. 900 to 1400. As each region had a distinctive local approach towards the erotic motifs, which is reflected in the their thematic content and nature of depiction, the present study is made on the erotic sculpture of a Kākattīya temple of 13th Century A.D. in Andhra region.

The Rudreśvara temple, popularly known us Ramappa temple was built by Recarla Tudra, a general in the service of the Kākatīya king Gaṇapati Deva, according to an inscription of the temple dated in A.D. 1213.[2] The ceiling, pillars and the exterior walls of the temple are richly carved and adorned with the icons of lord Śiva in his various forms, dancing girls. musicians, *nāginis* and bracket figures. Although the temple sculpture has been studied earlier,[3] here, it is aimed to study and analyse the erotic sculpture of the Ramappa temple in an altogether fresh approach.

Unlike the several Kākatīya temples, which are of the *trikūṭa*

---

* Dept. of History, & Archaeology, Andhra university, Waltair-530003

plan, the Ramappa temple is *ekakūṭa* and star-shaped in plan, It is raised on an *upapīṭha* or a high podium. The *upapīṭha* on which the temple rises, is plain and affords a space of 10 feet wide all-round the temple, forming the *pradakṣiṇapatha.* The *adhiṣṭhana* as well as the wall portion covering the *mukhamaṇḍapa* of the temple are profusely decorated with the figures of heterogenous character, comprising sages, women, *maithuna pairs* in various poses, warriors, acrobats, dancers, musicians, Saivite and Vaisnavite gods and goddesses alternatively in a frieze in the middle part. The upper and lower friezes are decorated with floral motifs. Below it is a row of elephants.

The bracket-figures which spring from the shoulders of the outer pillars of the temple support nominaly the chajja slabs at the three entrances of the *mukhamaṇḍapa* These life-size figures, generally known as *mandākinī* figures, are made of black basalt and carved with considerable skill. Some of these bracket figures are dancing girls in different poses while few others like mude *nāginī* and the woman wearing sandals, monkey pulling the saree of a lady and a woman standing under a tree have nothing to do with the dance and are of interest for the present study. The theme of the erotic sculptures studied here includes erotic exhibitionism, erotic couples and the scene depicting the oral intercourse.

Like a number of auspieious motifs such as *kīrtimukhas nāgas* and lotus designs, the erotic motifs are carved on the temple walls. It is mentioned in the *Utkalakhaṇḍa. Agnipurāṇ* and *Bṛhatsaṁhitā* that the function of the obscene sculptures was to protect the structures against lightning, cyclone and other visitations of nature.[4] Similarly, it is mentioned in the *Mānasāra* that just like the *pārsvadevatās dikpālas* and *āvaraṇadevatās* which form a protective ring around the installed divinity by emanating their power outward, so do the *mithuna* figures.[5] These literary references show the auspicious as well as the protection of the erotic imagery on the temples.[6]

At Ramappa temple, the exterior wall portion of the *mukhamaṇḍapa* is decorated with the figures of the female unfastening her garments, lifting up her skirt to expose her genatalia. Sages removing their under-garments and exposing their genital organs, nudity of the sages, erotic couples, dancers and musicians. These images along with the divine images like Bhikṣaṭanamūrti, Narasiṁha and dancing Gaṇeśa are carved in rectangular compartments alternatively, each separated by small pilasters. Form the location of the erotic figures and the place given to them in the sculptural and iconographicul scheme of the temple it may be suggested that the erotic images were carved in the overall decorative scheme, which must also be of auspicious nature.

On the lower part of the door-jamb of the *antarāla* and *garbhagṛha* are carved the erotic motif of *sālabhañjikā* or "woman and tree" (pl. I). This motif has its roots in a flower festival ceremony in ancient India. It is found from the *Mahābhārata* that it is the general belief that the trees would bestow children.[7] It is also believed that a young woman can revitalize a tree and make it blossom by her touch. Thus the relationship between the woman and the tree was believed to be reciprocal. Just as the woman could "fertilize" the tree, the tree could also impart "fertility" to her.[8]

At the southern entrance, the life-size bracket figure of a nude *nāginī*. Standing on a snake, holding a snake in her two uplifted hands, carrying one or more snakes round her neck and body wearing *sārpakuṇḍalas* and *sarpadaṇḍas* is not only a good piece of decorative art but also of much significance. The serpent held by her delieate finger has a large hood spread on the left of her right hand. The same kind of figure is also carved on doorjamb of the *garbhagṛhā* though in a smaller dimension.

It is enjoined in the *Śilpa Prakāśa*, belonging to the period between the 9th and the 12th Centuries A.D. that the *nāgas* protect the temple against lightning, in addition to propitiating the Nāga folk in the subterranean regions to secure the temple solidly on its earth foundations.[9] In Indian art serpent is a symbol of life energy, and the imaprtant function of the nāgas is that of door-guardian.[10] The depiction of the *nāgas* at the portals of the Hindu shrines can only be explained in this direction. Likewise, it appears from the śilpaśāstras that the builders of the temples were quite concerned with protecting the structures from all sorts of calamities, so much so that a miniature shrine or temporary abode was to be constructed, when the main temple was damaged by such natural disasters as lightning or sufered damage or the calamity of *pītha*-breakage of the base, attacks by elephants enemies or thievs.[11] The Kākatīya architect sculptors used the light weight bricks (which will float in the water) in the constructions of the *gopura* of the temple, keeping in view of the longevity of the structure. In the same manner, they have taken great care and followed the principles laid down in the Śilpa and Vāstu texts and placed at the entrance the *nāgas* in a beautiful combination with the female form (both of which are auspicious) to help protect the sacred precincts from all kinds of evil spirit. Further it is observed that the snake cult is more closely related to Śiva than to any other deity of the Hindu pantheon. In the *Mahābhārata*, Śiva is described as having a girdle of snakes, ear-rings of snakes, an *upavīta* of a snake and an outer garment of snake's skin.[12] It is widely believed that the snakes contribute to the fertility of the soil, the mankind and the health of the cattle.[13] For this reason, the serpents are reprsented in the temple art in three different types—theriomorphic, anthropomorphic and thero-anthropomorphic (a human bust with a serpent's tail). The auspicious nature of the female form of the *Tantric* practices, while the *Śilparatnam* and *Māyāmatam* state that the scenes of wars, death, sorrowor legends about gods and *asuras* or nude figures and the *līlā* or amorous sports of ascetics should not be figured on the habitations of human beings. It is mentioned in them that on the other buildings, made for other purposes, whatever is desired may be done. While considering these two contradicting statements, keeping the *Tantric* practices in strict secrecy and showing the ascetics in *maithuna* act on temples, it is essential to understand the religious background of the temple. A close study of the religious practices of the temple reveals the influence of *Miśra* religion of *Smārta-Pauranic Tantricism,*[17] which accepts the *Tantric* elements and retains its veneration for the Vedas and the *Varṇaśramadharma* and within the Brahmanic fold, and not of extreme Tantric sects with esoteric practices. The iconographical froms of the temple complex, which include Mahiṣāsuramardinī, Gaṇeśa, Viṣṇu, Śiva as Kālabhairava, reveal the syncretistic tendencies. Hence, there need not be any particular injunction for not revealing secretive *Tantric* practices and the followers of the *Miśra* school of *Pauranic Tantric* religion mighthave beenresponsible for displaying the ascetics and *Tantric* practices on the temple under study.

The Ramappa temple of the medieval period was not merely a religious centre of worship, but was a socio-cultural institution with the royal patronage. Because of the feudal character of the society, during which period the temple was built with the encouragement of the feudal lord, Recharla Rudra, the erotic motifs were accepted in the sculptural scheme and were conventionalised. Moreover, as the temple was an important socio-economic institution in this period, its size also increased with the addition of a large number of donated villages and plots of land. This facilitated the sculptor for carving several decorative motifs on the temple walls, which include the erotic figures.

Thus the study of the various themes of the erotic imagery on the Ramappa temple reveals that the erotic sculptures were carved in accordance with the *Śilpa* canons and regional traditions of religion and art. It also appears from the observation of the place assigned to them in the sculptural scheme of the temple that the erotic images were thought to serve the auspicious, *alaṅkāra* and magico-ritual functions.

NOTES

1 Devangana Desai, *Erotic Sculpture of India—A Socio-Cultural Study*, Delhi, 1975 ; Max Pol Fouchet, *The Erotic Sculpture of India*, London, 1959 ; Ordhendra Ganguly, "The Mithuna in Indian Art", *Rupam*, XXII, 1925, pp. 1154-61 ; Tarapada Bhattacharya, "Some Notes on Mithuna in Indian Art," *Rupam*, 1926 : Tarapada Bhattacharya, "Mithunas in Indian Art," *Lalitkala*, No 13, 1967 ; Kanwar Lal, *Miracle of Konark*, New York, 1967 : Y. Krishnan, "The Erotic Sculptures of India, "*Artibus Asiae*, Vol. XXXIV, 1972, p. 340. , J. Le Roy Davidson. "Mannerism and Neurosis in the Erotic Art of India," *Oriental Art*, VI (1960), 88-89 ; Alain Danielou, "An Approach to Hindu Erotic Sculpture," *Marg* 1948, p. 88 ; Thomas Donaldson, "Propitious—Apotropaic Eroticism in the Art of Orissa," *Artibus Asiae*, Vol. XXXVII, 2 pp. 75-100 ; K. K. Pillay, "The Mithuna in Indian Art," *Transactions of the Archaeological Society of South India*, 1956-57, Madras, pp. 21-31.

2 Yazdani, *Early History of Deccan*, Oxford University Press, 1960, p. 742.

3 *Ibid.*, p. 760.

4 Urmila Agarwal, "Mithunas : Why Obscene Sculptures ?" *Oriental Art*, XIV, (1968), p. 260.

5 P. K. Acharya, *Indian Architecture According to Manasara Silpasastra*, 1933, p. 88.

6 Donaldson, *loc. cit.*

7 *Mahābhārata*, III, 151, 31 ff, XIII, 4. 21 ff.

8. Desai, *op. cit.*, p. 99.

9 Alice Boner and S Ratha Sarma, *Śilpa Prakāśa*, Leiden, 1966, p. XLIX.

10 Heinrich Zimmer, *Myths and Symbols in Indian Art and Civilization*, New York, 1962, p. 63.

11 Daniel Smith, H., *Pañcharātraprasādhanam ; A Pañcharātra Text on Temple Building*, Madras, 1963.

12 J. Muir, *Original Sanskrit Texts*, Vol. IV, p. 191.

13 Pradyot Kumar Maity, *Historical Studies in the Cult of the Goddess Manasā (A Socio-Cultural Study)*, 1966, Calcutta, p. 45.

14 Frich Neumann, *The Great Mother*, New York, 1963, pp. 139-141.

15 Donaldson, *loc. cit.*

16 Desai, *op. cit*, p. 76.

17 Idem, "Relevance of Tantrism to Erotic Temple Sculpture," in *Madhu—K. R. Srinivasan Festchrift*, ed. by M. S. Nagaraja Rao. Delhi. p. 212.

List os Plate

Pl. 35 Nagini, bracket Ramoppa Temple

RAMAKATHA SCENES IN THE SIMHANATHA TEMPLE, ORISSA

Maruti Nandan Tiwari and Kamal Giri[*]

The Siṁhanātha temple, dedicated to Śiva, is situated in a rocky island in the Mahānadi river which can be approached from the Baramba village in the Cuttack District of Orissa. The temple, with a Śiva *liṅga* in the sanctum, is one of the earliest standing temples of Orissa. Although the Siṁhanātha temple has close affinity with the Paraśurāmeśvara temple (c. 7th century A.D.) at Bhubaneswar, some of its features pertaining to both the style and the iconography indicate a posterior date of late ninth century A.D.[1] The temple consists of the *rekhā-deul* (sanctum with curvilinear *śikhara*) and *jagamohana* (*mukhasālā*) with rectangular plan and flat roof.[2]

The Siṁhanātha temple is enriched with beautiful sculptures of the Brahmanical deities. The figures of Gaṅgā and Yamunā on the door-ways, Gajalakṣmī in the *lalāṭabimba*, Navagrahas on the architrave and Ekapāda, Liṅgodbhava, Lakuliśa and Andhkāsura froms of Śiva, Varāha, Trivikrama and Narasiṁha froms of Viṣṇu, Gaṇeṣa, Sūrya, Saptamātṛkās (preceded by Vīrabhadra),[3] Kārttikeya,[4] Dikpālas and Ardhanārīśvara and Harihara are specially noteworthy from the view point of iconography. Besides, the temple also contains the narrative panels pertaining to the *Rāmāyaṇa* and the Kṛṣṇalīlās,[5] and scenes from the contemporary life including erotic figures.

Although Orissa was under the influence of the main stream

---

[*] Dept of History of Art, Banaras Hindu University, Varanasi-221005

of religions such as Śaivism, Vaiṣṇavism, Śaktism, Jainism and Buddhism, Śaivism undoubtedly claims greater popularity. An amicable sectarian understanding was prevailing in Orissa during the early medieval times (*c.* 7th to 12th century A.D.). It is revealed also by the rendering of different scenes from the *Rāmakathā*, the *Mahābhārata* and the *Kṛṣṇalīlā* on Śaiva temples, namely Śatrughneśvara (*c.* sixth century A.D.), Svarṇajāleśvara (*c.* seventh century A.D.) and Vaitāla Deul (late eighth century A.D.) at Bhubaneswar[6] and also temple under discussion.

The rendering of the *Rāmakatha* scenes begins in the Gupta period which gained more and more favour in visual minifestations with advance in time.[7] It is somewhat surprising that while the *līlās* of baby Kṛṣṇa was the favourite theme in art, the representations from the childhood of Rāma, however, was not popular. The only examples from the Bālakāṇḍa of *Rāmāyaṇa* are known from the Cālukya and Hoyaśala temples."[8]

The depiction of the *Rāmakathā* in Orissa starts in about sixth century A.D., the earliest of which is perhaps the episode of Vāli-Sugrīva fight carved on the basement of the Śatrughneśvara temple at Bhubaneswar. The important episodes of the *Ramakatha* in Orissan temples are killing of the golden deer,[9] abduction of Sītā,[10] the killing of Jaṭāyu,[11] the meeting of Rāma with Sugrīva and consequent fight between Vālī and Sugrīva, the killing of Vāli by Rāma,[12] construction of bridge (*setu-bandha*),[13] the fight between monkey and demons,[14] Lakṣmaṇa.*mūrcha*,[15] Hanumāna with *sañjīvanī*,[16] the decisive fighting between Rāma and Rāvaṇa[17] and Rāma *databara* (or *Pañcayatana*).[18] Thus almost all the important episodes starting from the killing of the golden deer to the return of Rāma to Ayodhyā have been depicted, though in sporadic menner, in Orissan temples. It may be remarked, in passing, that the episode of Vāli-Sugrīva fight appears to have been the most favoured theme in Orissan art. The incidents from the childhood of Rāma and his brothers, as elsewhere so also here, do not find depiction. We would also like to observe that the depictions both from the *Ramakatha* and the *Kṛṣnalīla* deal mainly withthe heroic deeds of Rāma Kṛṣṇa, The point perhaps suggests that since the early medieval period was characterised by the rift and war among different regional powers, this particular aspect, showing the bravery of the two great epic heroes Rāma and Kṛṣṇa, was selected for visual representations.

The present paper endeavours to discuss at length the scenes from the *Ramakatha* in the Simhanātha temple which are carved on the facade and the *vāraṇḍa.* The episodes from the *Ramayaṇa* pertain to Vāli-Sugrīva fight, the fight between monkeys and demons, Laksmaṇa-*mūrcha* and the conclusive fighting between Rāma and Rāvaṇa.

The depiction of fight between Vāli and Sugrīva appears to have been a favoured theme at the site since it is represented twice, respectively on the wall of *jāgamohana* on south and on the *varaṇḍa* of *deul* on west. The frieze on *deul* measuring 6" in height. shows both Vāli and Sugrīva fighting fiercely with a block of stone in one of their hands to be pelted on each-other while their other hand is in the attitude of making a blow (pl.36). Both of them wear *kaupīnā* befitting the moment of duel.[10] Sugrīva also wears a garland and Rāma, standing behind in *śarasandhana* posture, is shown as aiming at Vāli. However, the identical scene in the Śatrughneśvara temple at Bhubaneswar shows Rāma as giving a garland to Sugrīva while the upper Śivālaya at Badami both Vāli and Sugrīva are shown wearing garlands. The scene in the Simhanātha temple also shows Lakṣmaṇa, standing behind Rāma with a bow, accompanied by a monkey figure. Further ahead is carved the figure of Vāli lying after having been injured by the arrow of Rāma. The head of

Vāli is being shown in the lap of a grim-faced female figure who is none else but his spouse Tārā lamenting at the tragic incident. The scene thus undoubtedly relates to the death of Vāli. Tāra, accompanied by another female figure, probably an attendant, is shown with her left hand being under the head of Vāli and right being on his head to suggest the painful moment experienced by her. To make the scene all the more natural the artist has also carved to other monkey figures looking at the incident in dismay and grief with their one hand being kept over the head. The frieze on the *jagamohana*, though identical in details, is divided in three separate but consecutive scenes. The first scene shows Sugrīva and Vāli engrossed in duel with stone blocks in their one hand while with other they are making blow at each-other. Sugrīva, though accompanied by Rāma and Lakṣmaṇa standing behind with arrow and bow, here does not wear the distinguishing garland. The scene fully concurs with the details as found in Vālmīki's *Rāmāyaṇā* which narrates how Rāma failed to distinguish between Vāli and Sugrīva, and consequently could not help Sugrīva who had to face an insulting defeat at the hands of Vāli in the firist instance. After this Rāma advised Sugrīva to have some distinct identifying marks on his person and then Lakṣmaṇa offered a garland made of *gajapuṣpī* creeper to Sugrīva. There after Sugrīva went again to Liṣkindhāpurī and challenged Vāli for trial of strength.[21] The second scene here, however, pertains to the second part of the episode wherein fierce fighting between Vāli and Sugrīva has been suggested through their deadly blow at each other and pelting of stone blocks. The scene fully conforms to the description of tne *Rāmāyaṇa* wherein Vāli and Sugrīva are mentioned as fighting with stone blocks and trees instead of the weapon.[22] Sugrīva here distinctly wears a garland and behind him there stands Rāma in *śarasandhāna* followed by Lakṣmana holding a bow and an arrow. It is interesting to noted here that as contrary to the description of the *Rāmāyaṇa*, which mentions that Rāma and Lakṣmaṇa took them to a holding place behind the trees,[23] Rāma here is not shown shooting an arrow from the hiding place. It may be noted here in passing that in sculptures this moment of Vāli-Sugrīva fight is usually shown, as evidenced by the instances in the Vārāhī temple (chaurasi, Orissa), the Kailāśa temple (Ellora) and the Hoyasala temples at Amritapur, Halebid and Belur (Karnataka), in combination with the episode of Rāma piercing a row of seven śāla trees by a single arrow.[24]

The third scene shows the dying figure of Vāli whose head is kept in the lap of his queen Tārā, accompanied by four monkey figures, probably representing Sugrīva, Aṅgada and others, all lamenting at this sad moment. It is intersting to note that nowhere else the depiction of the death of Vāli surrounded by his wife Tārā and other has been made while this is very much in concurrence with the description of the *Rāmāyaṇa*.[25] The entire episode here has been represented realistically and in natural sequence of three different scenes. The dynamic manifestation of Vāli-Sugrīva duel culminates in the ultimate victory of Sugrīva on the one hand and the death of Vāli on the other. The entire story combines in itself three different aspects, they are war diplomacy of Rāma in the killing of Vāli, bravery personified by Vāli and the pathos expressed in the death of Vāli.

The other two scenes, although represented at two different places but suggesting a sequence, pertain to Rāma-Rāvaṇa fight The first scene carved on the west *varaṇḍa* of *deul*, shows Rāma and Lakṣmaṇa, in *tāpas-veśa*, moving twoards battlefield with bow and arrow. The monkeys and demons fighting fiercely are carved ahead of them (pl. 37). In the scene, the monkeys are mostly shown overpowering the demons either by their fatal attacks or by holding their necks with left hand while their right hands are raised for blow. Sometimes they are holding two demons in hand from their legs and also either hitting them with legs on their backs, or holding the heads of two demons and bringing them closer to make hit of their heads, or holding the faces of the domons, or pulling out their hair and fighting with *daṇḍa*. The demons are shown either falling on the ground or making bid for escape but nowhere defeating the monkeys or even giving adequate resistance. The identical seene is carved on the *varaṇḍa* of *jagamohana* Wherein the demons are shown fighting with maces and monkeys with stone-blocks. In one case a monkey and a demon are carved fighting over the dead body of a monkey. Some of the monkey figures, on the basis of their representational importance, may be identified with Hanumāna, Sugrīva and other monkey chiefs. The artist here tried to give a realistic touch to the entire fighting scene by showing a few figures peeping out of the Windows.[26]

The next scene on the *varaṇḍa* of the *deul* pertains to the fighting of *Rāma-Lakṣmaṇa* with Rāvaṇa. Rāma and Lakṣmaṇa wearing *jaṭā-juṭa* are moving fastly in *śarasandhāna* towards battlefield. The five-faced six-armed Rāvaṇa, sitting on a four-wheeled chariot drawn by four horses, is shown facing Rāma and Lakṣmaṇa. He holds a sword, a shield, a bow and an arrow in his hand (pl. 38). *Ramayna,* however. conceives Rāvaṇa as ten-headed and twenty armed[27] but in the present instance Rāvaṇa is five-faced probably because of the limited space and frontal view. The mobility and gestures of all these figures are natural and befitting the situation of fierce fight. The rendering of Rāma and Lakṣmaṇa fighting without the chariot fully concurs with the delails of *Rāmāyaṇa* while in all other instances of Rāma-Rāvaṇa fight, known from the Kailāśa temple (Ellorā) Amṛteśvara temple (Amritapur) and Hoyasaleśvara temple (Halebid), Rāma is shown on a chariot.

The third scene on the wall of *jagamohana* probably relates to Lakşmaṇa mūrchā. In the scene a figure lying on a coach is followed by monkey figures, carrying something in their raised hands (pl. 39). The *Rāmāyana* mentions that Lakşmaṇa became unconscious by the hit of Rāvaṇa's *sakti* in the battle field.[28] The lying figure here is probably Lakşmaṇa, and the other two figures, close to him, may be identified with Rāma and Suşeṇa *vaidya*.

That the war continued uninterrupted, despite the injury of Lakşmaṇa, is suggested by the figures of monkeys and demons nearby. Ahead of this are seated two figures, one is probably Rāma supporting Lakşmaṇa, to get-up and be ready for the fighting at the end of his unconsciousness (pl. 40). The next part of the scene shows fighting of demons and monkeys, the latter led by Rāma and Lakşmaṇa. The depiction of Laksmaṇa *mūrcha* was not much popular in sculptural representations and its renderings are found only in the Sun temple at Modherā (Gujarat), Sās temple at Nagada (Udaipur District, Rajasthan), Amṛteśvara temple at Amrtapur and Cennakeśava temple at Belur. In all these examples, posterior in date to the figure in the Siṁhanātha temple, the unconscious figure of Lakşmaṇa is shown lying in the lap of Rāma.

The last scene on the wall of *jagamohana* shows Rāma, Laksmaṇa and Sītā sitting in a palace which is probably suggestive of their return to Ayodhyā after the end of Rāvaṇa. One hand of Rāma and Lakşmaṇa is raised and the bow is kept along their sides. Further ahead are again carved the seated figures of Rāma and Lakşmaṇa, infront of whome there stands a male figure, who may be identified with Bharata.

NOTES

1 The representations of four-armed *Sapta mātrkās* and twelve-armed Kārttikeya support our dating.

2 See, Vidya Dehejia, *Early Stone Temples of Orissa*, Delhi, 1979, pp. 116-20 ; Thomas Donaldson. *Hindu Temple Art of Orissa*, Vol. I, Leiden, 1985, pp. 166-76 ; K. C. Panigrahi, *History of Orissa*, Cuttak, 1981, p. 377.

3 Although the figure of Vīrabhadra (ithyphallic, two-armed, playing on *vīṇā*) is carved but Gaṇeśa is absent here The Saptamātrkā figures on the door-jambs of the temple, Śiva (four-armed, lion mount, holding varada-*mudra*, rosary, lotus indistinct), Vaisnavī (*garuḍa Vāhang*, *Varada mudra*, mace, disc, conch in hands and wearing *jāṭā-mukuṭa* instead of usual *kirīṭa-mukuṭa*), Aindrī), two-armed, elephant as conveyance, showing *vajra* in one hand while other rests on seat), Brāhmī (three-faced, *haṁsa-vāhana, jaṭā-mukuṭa*, holding *varada-mudrā*, *abhaya-mudrā* and lotus in three hands while remaining one rests on seat), Kaumārī (one-faced, two-armed showing hair-tufts as usual with Kārttikeya, peacock as vehicle, holding śūla and fruit), Vārāhī (boar-faced, two-armed, heavy-bodied resembling the figure of Kubera, showing purse and cup, the pedestal contains *nidhi-potras*, reminiscent of the iconography of Kubera) and Cāmuṇḍā (four-armed, terrific, in skeletal form, wearing garland of skulls and sitting on corpse and showing sword, *ḍamaru*, *khaṭvāṅga* and skull-cup).

4- The twelve-armed Kārttikeya on the southern facade of *deul* rides a peacock with three hanging tufts of hair, bulging eyes and terrific appearance. He shows the *varada-mudrā*, arrow, goad, noose, *śūla*, sword *patākā*, lotus, shield, bow, *tarjani-mudrā* and a cup. The attributes are reckomed clockwise starting from the lower right hand.

5. The *Kṛṣṇalīlā* scenes in the temple are in traditional sequence as enunciated in the *Bhāgavata Purāṇā* (c 8th century A.D.), The scenes carved in separate niches represent the killing of Pūtana, Keśī, Ariṣṭa and Kālīya by baby Kṛṣṇa. and Dhenuka by Balarāma.

6 It is interesting and at the same time amazing to find the depiction of the small figures of the Jaina Tīrthaṅkaras (more than 20 in number) on the Mukteśvara temple (mid 10th century A.D.).

7 The principal sites yielding narrative panels from the *Rāmāyaṇa* are Deogarh, Nalanda, Nachana, Bhitargaon, Badami, Pattadakal, Khajuraho,

Modhera, Ellora, Halebid, Belur and Somanathapur. During the early medieval period, the representation of *Rāmakathā* appears to have been more popular in South India as compared to North.

8 Pāpanātha temple, Pattadakal (7th century A D.), Amṛteśavra temple, Amritapur (1196 A.D.), Keśava temple, Somanathapur (1268 A.D) in Karnataka and Kailāśa temple, Ellora (8th century A. D.) in Maharastra.

9 Svarṇajāleśvara (Bhubaneswar) and Vārahī (Chaurasi, Puri District) temples.

10 Svarnajāleśvara (?) and Vārāhī temples.

11 Vārāhī temple.

12 Śatrtghneśvara. Svarnajāleśvara, Vārāhī and Siṁhanātha temples.

13 Vārāhī temple.

14 Siṁhanāha temple.

15 Siṁhanātha temple.

16 Jagannātha temple (Puri), nāṭamandapa (north).

17 Siṁhanālha temple.

18 Ananta Vāsudeva (Bhubaneswar) and Janannātha temples.

19 The Hoyasaleśvara temple at Halebiḍ (Karnataka) also shows Vāli and Sugrīva with kaupīna. It is mentioned in the *Rāmāyana* that Vāli and Sugrīva both wore kaupīna at the time of duel.

20 *Rāmāyaṇa, Kiṣkīndhākāṇḍa*, 12-19-21.

21 *Ibid* , 12-38, 40, In the scene of Vāli Sugrīva fight in the Satrughneśvara temple, Lakṣmaṇa has been shown putting a garland in the neck of Sugrīva.

22 *Rāmāyana*, Kiṣkindhākanda, 16-28-29.

23 *Ibid* , 14-1

24 However, the scene of Vāli-Sugrīva fight in the Svarṇajāleśvara temple shows Rāma as standing behind four trees. Since the trees are not seven in number here, it may be remarked that the artist probably tried to follow the tradition of Vālmiki wherein Rāma is said to have shot the arrow from behind the trees only.

25 *Rāmāyana*, Kiskindhākaṇḍa, 19-26-28.

26 However, the *Rāmāyana* also makes detailed reference to the fight of monkeys and demons see (*Rāmāyana*, Yuddhakanda, *sarga* 46).

27 The scene of Rama-Ravana fight in Hoyasaleśyara temple (Halebid) also shows Rāvaṇa with five heads.

28 *Rāmāyana*, Yuddhakāṇḍa, 100-35-36.

List of Plates

(Copyright—American Institute of Indian Studies)

36 : Vāli-Sugrīva fight (Siṁhanātha temple, west)

37 : Fight between monkeys and demons (Siṁhanātha temple, south)

38 : Rāvaṇa in the battle-field (Simhanatha temple, south)

39 : Lokṣmaṇa-mūrchā (Simhanatha temple)

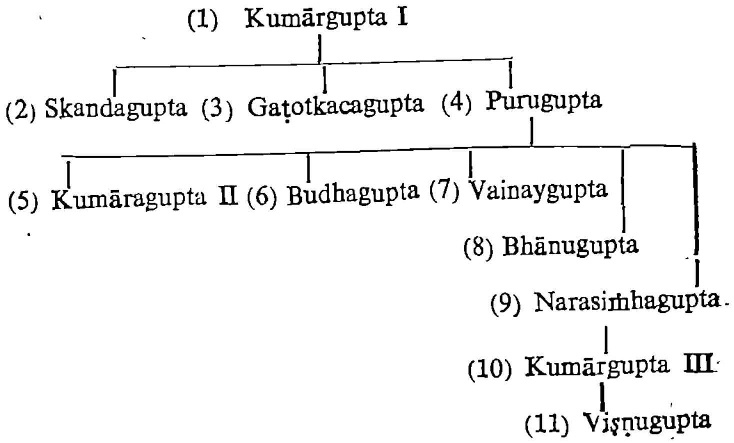
40 : Fight between the armies of Rāma and Rāvaṇa and Lakṣmaṇa-*mūrchā* (Simhanātha temple)

REVIEWS OF BOOKS

RISE AND FALL OF THE IMPERIAL GUPTAS by Ashvini Agarwal, Published by Motilal Banarsidas Publishers (p) Ltd , Delhi, 1989, pp. XXIII+322, Price Rs. 150.00

Primarily a doctoral dissertation, the book attempts a re-survey of the dynastic history of the Imperial Guptas. It contains fourteen chapters, an epilogue, a bibliography and an index. In the first chapter on Sources, an account of inscriptional, glyptic, numismatic and literary data has been given. The second chapter, entitled the 'Political Condition of India before the Rise of the Guptas', deals with the powers enjoying political authority in different parts of India. In the third chapter on the Predecessors of the Guptas in Magadha, the author comes to the conclusion that 'an impenetrable blaze' envelopes the political situation in Magadha immediately before the rise of the Guptas. The emergence of the Guptas as a Minor Power constitutes the subject of the fourth chapter. After critically discussing various observations, the author suggests that the Guptas were Brahmins and that eastern U.P. was their original home. The fifth chapter, under the title Founder of the Imperial Rule, covers the reign of Candragupta I. It has an appendix where the author defends the generally accepted view that the Gupta era was started by Candragupta I in 318/19 A.D. In the following chapter on the Expansion and consolidation under Samudra Gupta, the author asserts that Candragupta abdicated in favour of his son, and that

Kāca and Samudragupta were identical, It has further been suggested that Samudragupta had to put down the rebellion of Acyuta, Nāgasena and scion of the Kota family before his southern campaign. Fresh trouble in the north is said to have forced Samudragupta to leave 'his task in the South only half accomplished'. The alleged numismatic evedence regarding the existence of Samudragupta II was found to be of no worth. Regarding the Problem of Rāmagupta (Chapter VII), the author is inclined to believe that Candragupta II had to kill his elder brother before ascending his throne. In Chapter VIII the reign of Candragupta II Vikramāditya has been reconstructed indetails. The author accepts the identification of Candragupta II with Candra of the Meherauli Pillar inscription. He also advances a number of arguments in favour of identifying Candragupta II Vikramādity with Śakāri Vikramāditya, Chapter IX deal with Govindagupta who has been taken here asthe immediate successor of Candragupta II, 'The Empire at its zenith—Kamāragupta I' is the title of the tenth chapter. The author considers the reign of Kumāragupta I as a period of peace and prosperity. He did not have to 'encounter any invasion or internal rebellion'. After his death Skandagupta ascended the throne 'in the natural course and had not to fight his way to it,. Chapter XI surveys the reign of Skandagupta, 'the greatest hero of the dynasty'. After a critical assessment of different views, the author affirms that theMlecchas of the Junagadh rock inscription and the Hūṇas of the Bhitari Pillar inscription were identical. Also in his opinion, the Vākāṭakas did not make any inroad into the Gupta empire. The author has built up the following genealogy and chronology of the Imperial Guptas after the death of Kumāragupta I reviewing the available data in Chapters XII & XIII.



The discussion ends with a brief account of the Hūṇas in India. Chapter deals with some important feudatories of the Guptas like the Aulikaras Malwa, Maitrakas of Valabhī, Paribrājaka Mahārājas and Kings of Ucchakalpa. In Epilogue the author tries to find out the causes for the Disintegration and Collapse of the empire.

Fairly documented and intelligibly and critically written, the book under review is a welcome addition to the growing literature on the Imperial Guptas. One may not, however, acceptmany of the suggestions offered by the author, particularly regarding Govindagupta's independent rule, the cause of Samudragupta's return from the south. Jaina Rāmagupta's inclusin in the primarily Vaiṣṇava family of the Guptas and (South) Kosala's inclusion within the Gupta empire. The reconstruction of the chronology and genealogy of the Gupta dynasty may not also receive general approval. Recent discovery of an inscription of Srī Candra (see B. R. Mani and S. K. Dube, 'Gupta Vamsa Ke Pratham Sasak

Sri Gupta ka Sarnath se prapta Hariti-pratima Abhilekh' *Dhyanam* Nos. 5 & 6 py. 39-43) and several rock inscriptions, apparently of Candragupta II in the Hunza Valley in occupied Kashmir (see A.H. Dani, *Human Records on Karakoram Highway*, Islamabad, 1983, pp. 80-83 ; also B.N. Mukherjee, 'The Hunza Valley and the Imperial Guptas', *Journal of Bihar Research Society*, Vols. LXVIII, pp. 561-66), may shed new light on the history of the Guptas. In the Bibliography, D.C. Sircar's *Malwa and the Vikramaditya Tradition* is an unfortunate omission. Notwithstanding what has so far been said, Ashvini Agrawal must be congratulated for his able handling of the dynastic history of the most haloed family of ancient India.

D. R. Das.

ENCYCLOPAEDIA OF INDIAN TEMPLE ARCHITECTURE, Vol. 2 : NORTH INDIA : FOUNDATIONS OF NORTH INDIAN STYLE (c. 250 B.C.-A.D. 1100), Part I, ed. Michael W. Miester, M.A. Dhaky and Krishna Deva, New Delhi and Princeton, 1988 pp. XVIII+422, Maps 15, Figures 158 and Plates 778.

The book under review is the second in a contemplated eight-part series (grouped into two volumes) on Indian temple architecture. An attempt has been made here, through thirtytwo chapters, to trace the foundations of that form of temple architecture, known as *Nāgara*, found principally in northern India but with extensions also into the Deccan under the Cālukya and

Rāṣṭrakūṭa dynasties. The authors of these chapters are Krishna Deva (1. Mauryas, Śuṅgas Kānvas, Kuṣāṇas Kṣatrapas ; 2. Guptas and Their Feudatories ; 4. Vākāṭakas of Vatsagulma ; 8. Latter Guptas and Minor Dynasties ; 9. Maukharis and Puṣpabhūtis of Kānyakubja ; 10. Minor Dynasties ; Maṇḍapikā and Early Nāgara Traditions ; 13. Kalacuris of Tripurī : Maṇḍapikā Shrines ; 17. Varmans of Kāmarūpa ; 18. Pāṇḍuvṁśis of Śrīpura and Nalas and 23. Kārkoṭas and Utpalas of Kāśmīra), M.A. Dhaky (5. Traikūṭakas of Anirudhapura ; 6. Mauryas of Purī ; 7. Kalacuris of Māhiṣmatī and Early Rāṣṭrakūṭas of Elāpura and 22. Rāsṭrakuṭas of Elāpura and Mānyakheṭa), Michael W. Meister (11. Aulikaras, Mauryas, and Minor Chieftains and 16. Cāpotkaṭas of Bhillamala), Carol Redcliffe Bolon (20. Cālukyas of Bādāmī : Karṇāṭa and Supplementum of 21. Cālukyas of Bādāmī : Āndhradeśa), A.P. Jamkhedkar (3. Vākāṭakas : Main Branch), Debala Mitra (19. Śailodbhavas), B.R. Prasad (21. Cālukyas of Bādāmī : Andhradeśa), Krishna Deva and Michael W. Meister (12. Pratīhāra Period : Maṇḍapikā Shrine) and M. P. Vora and M.A. Dhaky (14. Maitraka of Valabhī and Gārulakas of Western Saurāṣṭra and 15. Maitrakas of Valabhī). At the end of the text is a Reference Glossary and a Site and Temple Index. Plates are arranged in a separate volume.

The text begins with the survey of literary, sculptural and monumental evidence regarding the shelters devised for divinities during the period from c. 25 B. C. to 400 A. D. How the north Indian style began to take shape through experiments in Uttarāpatha, Vidarbha, Aparānta, Kuṅkaṇadeśa during the period from c. 350 to 650 A.D. has been narrated in the six succeeding chapters. Once the foundation of north Indian style was laid, it started proliferating into a number of varieties described here under such titles like Magadha Style, phase I (c. 500-700 A. D.).

Madhyadeśa Style phase 1 (c. 575-700 A.D.), Style of Daśārṇadeśa, phase 1 (c. late sixth-late 7th century A. D.) Mālava Style (c. early sixth-late 7th century A.D.), Style of Daśārṇadeśa, phases 2 & 3 (c. mid. eight to early 10th century A.D.), Surāṣṭra Style, pre-Nāgara phase (late 6th-late 7th century A.D.) and early Nāgara phase (c. late 7th--to mid.8th century A.D.) Mahā-Gurjara Style, phase 1 Arbuda school (c. 7th century A.D.) Kāmarūpa style (c. 7th century A.D.), Dakṣiṇa Kosala Style (e. late 6th early 8th century A. D.), Kaliṅga Style, phase 1 (c. late 6th-early 8th century A.D.) Karṇāṭa Style, Nāgara Phase (c. 620-750A.D) and 700-775 A.D.), and Styles of Kashmir and the Panjab (c. 600-1100 A.D.). The historical background and architectural features of each style have been given before describing the individal temples belonging to it.

The summary account of the content of the text amply demonstrates the magnitude of the coverage made here. Never before north Indian temple archiecture of a given period received such a detailed study in a single volume. The authors of different chapters have also given undoubted evidence of authority over their respective areas In keeping with the maxim that drawing is the language of architecture', the text is copiously illustrated by line sketches, Plates are also too many and of a high standard.

The extent of time and space covered by the book is so wide and the architectural forms dealt here are so varied that a universal agreement in respect of everything written by the contributors is not expected. One may also expect an introductory chapter defining the 'North Indian style' and the scope of the present volume of which includes such forms whose role as constitituting the foundation of the *Nāgara* style is not clear. While line drawings of plans, elevations and other details of temples have been liberally given, section drawings are a few (only 13 out of 158 text figures) and that again are mostly of temples at Aihole and Pattadakal. No recognition to the metrical analysis as a method for understanding an architectural style as well as for dating temples has been given. The programme for the placement of images on temples, known to have varied with the changes of time and space, needed to be studied in greater details. The exclusion of north-eastern Andhra Pradesh, under the early Gaṅgas, leaves uncovered the Madhukeśvara, which at least palaeographically belongs to the 7th century. The discussion on apsidal temples (p. 11) does not include one such example of the Sātavāhana period at Aihole, As regards the *Maṇḍapika* temples, the reason behind the omission pavilion type shrines at Aihole, Badami and Mahakut is not comprhensible. Contrary to the assertion in p. 253, incipiet *Pīḍhā* (*Phāṁsanā*) temples made its debut in Orissa/Andhra Pradesh sometime during the 7th/8th century A.D. (e.g. the Nilakaṇṭheśvara at Padampur Orissa). The Yudhiṣṭhira temple on the Mahendragiri should have been ascribed to the Kaliṅga style of the period under review. At the same time it is doubtful whether temples like the Mohini can be assigned to the Śailodbhava period,

What has been said above is by no means, under rate the immense value of the present book.It is a great work unmatched by any previous volume on the subject. The editors and the sponsoring body, the American Instituter of IndianStudies, havebrought the scholarly world under a sense of permanent indebtednees to them by bringing out a book of this standard. For years to come this book will remain an indispensable reference work for any one interested in Indian temple archiecture.

D. R. Das.

KALĀTATTVAKOṢA : A Lexicon of Fundamental Concepts of the Indian Arts, General Editor, Kapila Vatsyayan, Indira Gandhi National Centre for the Arts, New Delhi, 1988, Price. Rs. 200.00

It is very much heartening to see that the Indira Gandhi National Centre for the Arts has taken up a project which, if completed, will be a laudable contribution of the Centre not only to the field of Indian art history but also to the entire area of cultural heritage. The project is ambitious as well as daring, as it proposes to bring out a Lexicon containing 250 fundamental terms that link philosophy and the different Śāstrik disciplines with aesthetics and arts in their all dimensions. The book under review is the first preliminary volume of the project containing eight major articles on the following fundamental concepts: *brahman*, *Puruṣa*, *ātman*, *śarīra*, *prāṇa*, *bīja*, *Lakṣaṇa* and *Śilpa*. As stated by the general editor, this volume is only a preliminary publication of the four long ranged programmes of the Kalākośa Division of the Centre, namely ; (i) *Kalātattvakoṣa* A Lexicon of fundamental Concepts and Glossaries of technical terms ; (ii) *kalamūlaśāstra* Series of Fundamental Text basic to the Indian artistic traditions and also primary texts specific to particular arts, (iii) Publications, reprints, translations of works of critical scholarship such as those of A.K. Coomaraswamy ; (iv) Encyclopaedia of the Arts—A multi-disicpilinary, multi-Volume Encyclopaedia of the Arts. It is obvious from this four-fold scheme that the Centre "aims to comprehend the arts within the context of the Indian world view, notions of space-time and interconnections, at the level of theory and practice." And to achieve these lofty aims it has enlisted dedicated active cooperation of some noted scholars who have specialised in one or more disciplimes covered by the scheme.

As the book intends to throw light on the basic concepts contained in different disciplines, its approach differs from technical glossaries of an individual subject. For example, the coneept of *rasa* has chemical and physiological meaning in the *Rasaśāstra* and *Āyurveda* ; and yet this meaning is not totally lost when the same term represents the concept of *rasa* in poetics, meaning "aesthetic flavour." It shows that each vital concept has its own life and history through the ages and has evolved even inmodern Indian Languagesgiving particular 'colour and flavour' to each cultural expression. To explore all the dimensions and planes of these concepts before discovering their manifestation and usage in the various arts, the articles thereon have been prepared according to a general schema that includes : 1. Summary ; 2. Etymology and cognate terms ; 3. The core meaning of the concept ; 4. Historical development of the concept through the various text groups and schools ; 5. Manifestation of the concept in arts ; 6. Classification of from, subdivisions ; 7. Process (*krama*) and 8. Conclusion. A slight variation from this general schema could not, however, be avoided to do justice to such concept as *śilpa*, which is last among the eight concepts treated in the work.

Notwithstanding the fact that the very approach of providing definition to any subjective expression is almost a self-defeating proposition, the merit of the present Lexicon may be appreciated from the very first sentence on its first article, namely, Brahman, It reads, to our satisfaction, as : "*Brahman*, the absolute, cosmic, transcended principle and immanent womb of everything, one of the most prevasive concepts of the Indian tradition, evades every clear definition, though the religious literature is full of attempts to be describe the indescribable." With this the auther of the article, Bettrino Baumer, who is aiso the editor of this small volume, moves on to elaborate an 'overview' on *Brahman* ; and then, as noted above, to provide with the etymology, coremeaning, historical development, etc. In the process the author quotes assiduously from the Śāstrık texts of different branches, starting, of course, from the *Rgveda.* Such quotations, being taken off from their original contexts, possibly have lost some of their dimensions. Besides, the translations, in spit of the best efforts of the translators, earlier or contemporary, appear to be further restrıctive in expressing their meanings. But such limitations are unavoidable ın a project like *Kalāṭaṭtvakoṣa* ; and that too have much retrieved through the references to the quotations. An interested reader wıll be able to seek further clasifications an the points alluded to in the quotation by referring to the original texts.

Of the eight concepts treated in the *Lexicon*, the last *śilpa*, deals with a term chiefly of artistic connotation. R. N. Misra. the author of the article, has shown the richness of his repertoire in dealing the term both in conceptual and practical planes. Tracıng the word and its cognates from the *rgveda*, and throwing sıdelight on various interpretation of the word with the help of textual and epigraphical informatıon, Misra has succeedded in providing a basis for further study on the concept. However, a reader will feel somewhat amiss not to find the apposite concept *kālā* being discussed along with S*ilpa*. Even if the former concept is to be dealt with fully in a separate article, a reference to it in the present context could have been very much relevant.

Any work of importance is bound to raise questions. some pertinent and others not so pertinent. But a work like *Kalātattvakoṣa* is a definitive publication in the area of Indian artisttic tradition and scholars as well as general readers interested in the subject will remain ever vigilant for the results of such a well-organisad and highly purposeful project. With list of terms to be treated in future and an extensive bibliography the *Kalātattvakoṣa* even in its slender volume, is a publication of singular importance for those interested in Indian art history, especially with reference to *Śilpa* and other relevent texts. This volume is an ample evidence to show that the scholarship in the line has much advanced since 1911, when Vincent A. Smith wrote in his *A History of Fine Arts in India and Ceylon* that "enormous mass of Indian literature, whether in Sanskrit or any other language does not contain, I belive, a single treatise on the aesthetic of plastics and pictorial art". (p. 3).

Asok K. Bhattachaaya

MODERN ACCOUNTING CONCEPTS IN KAUṬILYA'S ARTHAŚĀSTRA by Anjan Kumar Bhattacharyya,

Firma KLM Private Limited, Calcutta, 1988, pp. xv+143,
Price Rs. 160.00

The *Arthasāstra* of Kauṭilya is a text on the since of statecraft. This thesis remained to some extent iike a model for the political thinkers and administrators of ancient India over centuries. Additions, alterations and changes in nomenclatures of the administrative posts had, no doubt, been introduced in the succeeding ages under changing political circumstances and with the rise of new economic issues. Notwithstanding the long-drawn controversy over the date and authorship of the *Arthasāstra*, it can rightly be regarded as the most important of the contributions made by the thinkers of ancient India to the study of the science of polity and economics.

The monograph, under review, is a new addition to the volume of literature that has already accumulated on the *Arthaśāstra* of Kauṭilya. The author holds the Master's degree in Commerce and teaches Accountancy and Auditing in a reputable college at Calcutta. Born in a family of pundits and mahāmahopādhyāyas, he is expected to be well grounded in Sanskrit in which the *Arthaśāstra* is written. The real problem, however, lies in the vocabulary used by Kauṭilya which have baffled the investigator and given rise to diverse interpretations. In any case, it is worthy of Sri Bhattacharaya that he has taken up accountancy in the *Arthaśāstra*' as his field of investigation ; for, it requires knowledge in Sanskrit as well that in accountancy.

According to Kauṭilya, 'all public undertakings depend on finance ; hence the first attention should be paid to the Treasury.' Kayṭilya, therefore, puts forward a comprehensive scheme for proper manoeuvering of all the sources of revenue and for the collection by mobilising the administrative machinery. In matters relating to public finance, auditing and accounting are treated as things of utmost concern, Kauṭilya, therefore, devotes an entire chapter on the 'topic of accounts in the records and audit office'. The elaborate scheme, formulated by Kauṭilya. has, no doubt, emboldened the author of this monograph to take up the subject. It is divided into eight chapters followed by five appendices. Chapter I deals with the importance and practice of trade and commerce, Chapters II-V deal with the accounting concepts design accounts, farm accounting and statistical accounting in village administraiion respectively. In Chapters VI and VII attempts have been made at tracing the concepts of costing and audit in *Arthaśāstra.* The columnar forms prepared and presented by the author are of immense help to us in understanding the design of accounts conceived and formulated by Kauṭilya. In this connection the author speaks of the superiority of the system followed by the ancient Indians to that of modern times (p. 41). But he himself contradicts it when he comments that 'present-day accounting operates within a broad socio-economic environment' (p. 118). It would not be prudent to compare a system of the second half of the towentieth century to the one which existed about or more than two thousand years back and declare the one as superior to the other.

Sri Bhattacharyya concludes with the observation that 'the fundamental concepts of income, expenses and capital and the basic ideas of accounting, costing and auditing originated in ancient India and not in the western world as is known now' (p. 119). It is true that the scheme submitted by Kauṭilya with regard to accounting and anditing is baised on a scientific method and no earlier traditions. The very terms *bali*, usually taken as implying a kind of taxation, *bhāgadugha* (lit. collector of taxes) and *saṁgrahītṛ* (collector) covertly hint at the existence of a system of accounting in the Vedic period. *Gaṇanā* or accountancy was one of the subjects in which the crown-prince had to earn proficiency. Thus accountancy as a subject had, no doubt develop in ancient India. The statements of Herodotus that the Persian empire under Darius I was dividad in twenty-three satrapies and that Hidu (one of these satrapies) paid the largest amount of tribute indicate the prevalence of the system.

of accounting and auditing as a part of the administration under the Achaemenids. As such, it would not be wide of the mark to suggest the accounting and auditing, as an element of statecraft, evolved out of the common administrative experiences of the early rulers though the method followed in the ancient kingdoms is not always known to us. There are reasons to believe that the ancient traders also used to keep accounts of their income and expenditure.

Despite the novel approach the mongraph, under review, suffers from certain lapses. The author does not take into consideration a couple of important works on Kauṭilya, *viz kauṭilya*, Vol. I, by N. C. Bandyopadhyay and *Economics in kauṭilya* by B. C. Sen. In both the works the views of Kauṭilya on accounting and auditing have been discussed thoroughly. Secondly, though not indicated any where, the author has used the translation of Shamasastry Sri Bhattacharyya does not seem to be acquainted with the *Arthaśāstra of kautilya* (in three parts) by R. P. Kangle. In interpreting and translating the technical terms used by Kauṭilya, Kangle differs from Shamasastry on a large number of occasions. Accordingly, the exposition of the aphorisms of Kauṭilya put forward by Sri Bhattacharyya requires modification at places. Thirdly, the diacritical marks have not been used in a uniform manner and according to the international system. It is expected that the author will take them into consideration in the next edition.

Amitabha Bhattacharyya

PRĀCIN BHĀRATER LEKHA SĀHITYA (in Bengali) by Bharat Kumar Ray, Sanskrit Pustak Bhandar, Calcutta, 1390 B. S., Price Rs. 40.00.

Epigraphy, especially in Indian context, has manifold aspects of study yet left uncovered or touched only in the fringes even after masterly contributions of numerous luminaries. Moreover, at present the scholars working in the field being hadful in number as against the stupendous amount of treasure at our disposal, any publication on the subject is a welcome addition.

The book under review is an enlarged version in Bengali of the Ph. D. thesis of the writer entitled *Literary Aspect of the Inscriptions of Northern India.* The study is devoted to an analysis of the North Indian inscriptions from the days of the Maurya empire till the Gupta period principally from the viewpoint of a student of Prākṛt and Sanskrit literature. Importance of the epigraphs in a study of the development of Indian literature and influence of contemporary literary environ of inscriptions have been skilfully projected with reference to original sources which are helpful for future workers in the line.

The book is divided into four chapter and two appendices. First two chapters incorporate introduction and discussion of the relationship of Prākṛt and Sanskrit literature with Asokan inscriptions emphasising at the same time the importance and beauty of the style of expression of the records themselves. The third deals with other Prākṛt epigraphs. The Sanskit records starting from the days of Rudradāman to the Gupta period have been studied in the fourth chapter which also contains the concluding remarks. List of inscriptions with their texts in the appendices will benefit the students.

The writer deserves our thanks particularly on behalf of the Bengali readers for a publication of this nature in Bengali. However, it would have been better if difficulties in expression at places, perhaps owing to the problems of translation from English, could be avoided (p. cf. 33, lines 2-5, p. 34 lines 15-16 etc.).

Subid Chatterjee

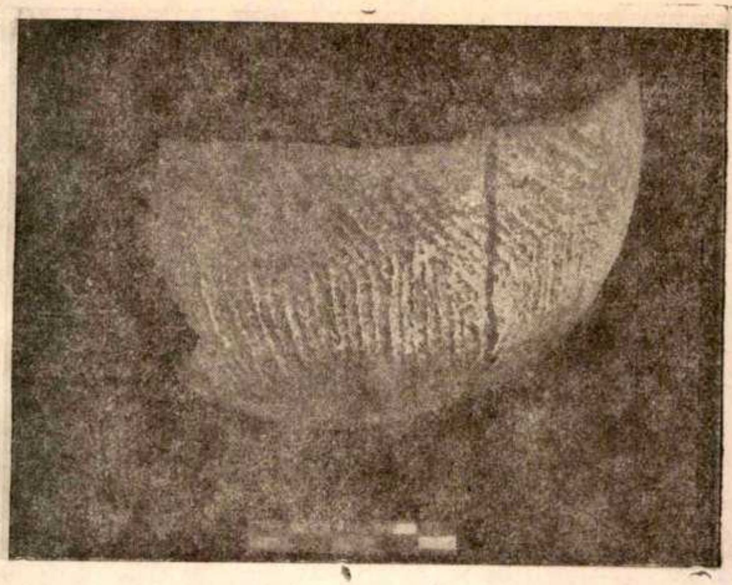
ORIGINS OF THE GANDHARAN STYLE by Lolita Neheru; published by Oxford University Press, Delhi etc. 1989 pp. xxiii+139, Maps 4, Plates 176, Price Rs. 700.00.

This book is a research dissertation, albeit much revised, for which the author was awarded the Ph. D. degree of Cambridge University. The period of the book extends from the rise of the Mauryas to the close of the Kuṣāṇa dynasty. It has three main sections, viz. Introduction, The Contributory Styles and the Origins of the Gandharan Style. At the end is a Bibliography which includes the List of Abbreviations. The Introduction begins with a summary account of the efforts of scholars to trace the origin of the Gandharan style. It is followed by an outline of the three main structural themes of the book, viz. (a) the Gandharan absorption of various stylistic influences; (b) the interplay between Hellenism and the indigenous traditions of the east and (c) the process of stylistic change and formulation of Gandharan sculpture into an independent stytistic language. The scope of the book has been confined to the style of sculpture. 'Style' is understood here in the sense of the manner in which a particular tradition expresses itself. The section on the Contributory Styles is divided into four subsections entitled the Graeco-Roman Contribution to the Gandharan Style, Bactrian Influences, Parthian Influences and the Early Indian Contribution. Endeavouring to trace the source of western Classical elements in Gandharan sculpture, the author came to the conclusion that it was Bactria and not Imperial Rome which laid the foundations of Hellenism in the Gandhāra region. Entering Bactria, in consequence of Alexander's invasion. Hellenism gave shape to Bactrian art in which may be found the roots of Gandharan Hellenism. To the 'Graeco-Iranian' art of Parthia, a product of the fusion of west Asian-Achaemenid traditions and Hellenistic overlay of the Seleucids, is traced the origin of the forntal representation of figures in the narratives and the compositional treatment of some reliefs. The Indian stylistic tradition, while exerting its influence, became considerably modified in Gandhāra. This can be seen in the treatment of time and space. Indian naturalism gave way to Hellenistic realism in Gandhāra while the secular flavour of Indian sculpture evaporated on entering this region. The third and the largest section of the book takes up the problem of the Origins of the Gandharan Style. Under a subtitle, the Kuṣāṇa Gandhāra style, the author explains what is meant by the Gandharan style as formulated during the two centuries of the Kuṣāṇa rule. It is followed by a discussion on the Emergence of the Gandharan Style and the Process of Formation. It covers such topics like Hellenization of the east, the different processes of stylistic intermixture between the several indigenous traditions spread over the wide area from the Euphrates to the

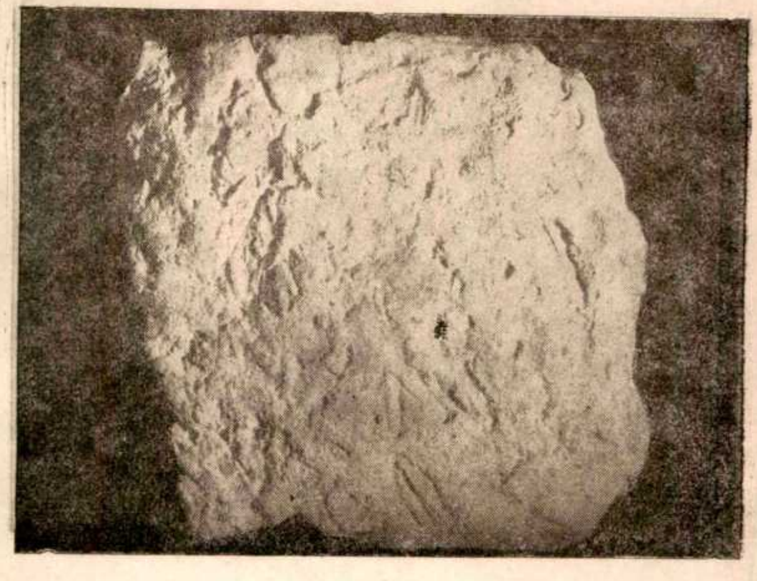
Ganges and Jamuna valley, and the Hellenism which followed upon Alexander's conquest of these regions. In order to analyse the process of stylistic change and formulation of the Gandharan sculpture, the discussion has been extended to the pre-Kuṣāṇa material and to stucco, terracotta and clay sculptures The author divides the broad processes of formulation of the Gandharan, styte into three successive stages. The first stage represents the independent expression of different stylitic norms, viz. Hellenistic Parthian and Indian. The second stage corresponds to the period of Gandharan Creativity and early Kusāṇa rule when were developed new stylistic and iconographic formulations. The third stage, commencing towards the close of the ls. century A.D., witnessed the establishment of the formulated and distinctive Gandharan style. Vindicating Foucher's assertion, the author comes to the Conclusion that Gandharan sculpture is the offspring of the marriage between Hellenism and Indian traditions and executed by artisans who were themselves the hybrid progeny of a co-existing Western and Indian population.

As the author admits, the story of the origins of the Gandharan style suffers from may gaps particularly in respect of the stylistic stages and their chronological horizons. At the same time, her work is a long and definite stride towards filling those gaps. The vast mass of data collected through a sustained labour, wealth of information gathered from them by the application of a critical mind, and the clarity of understanding behind the conclusions drawn, mark the book under review one of the most valuable works on Indian art history. The plates accompanying the text are a treat to the eyes. Printing and get up of the book do credit to the Publisher.

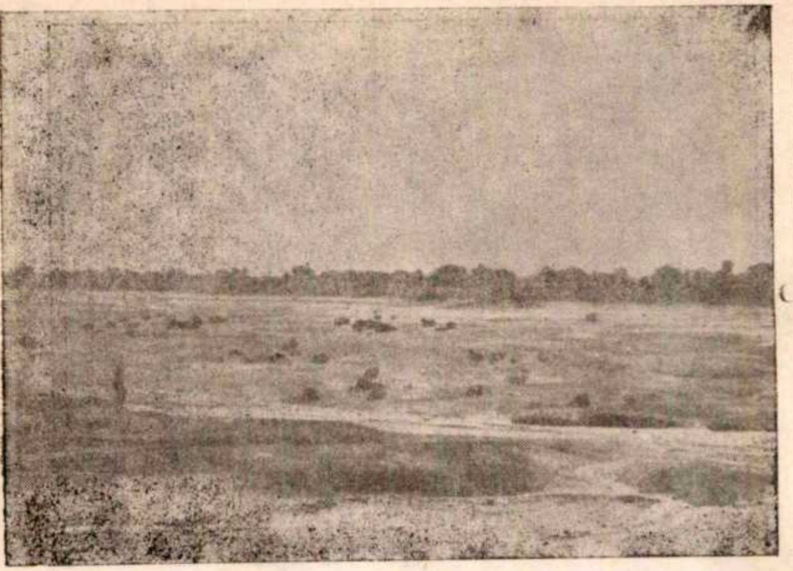
D. R. Das



1

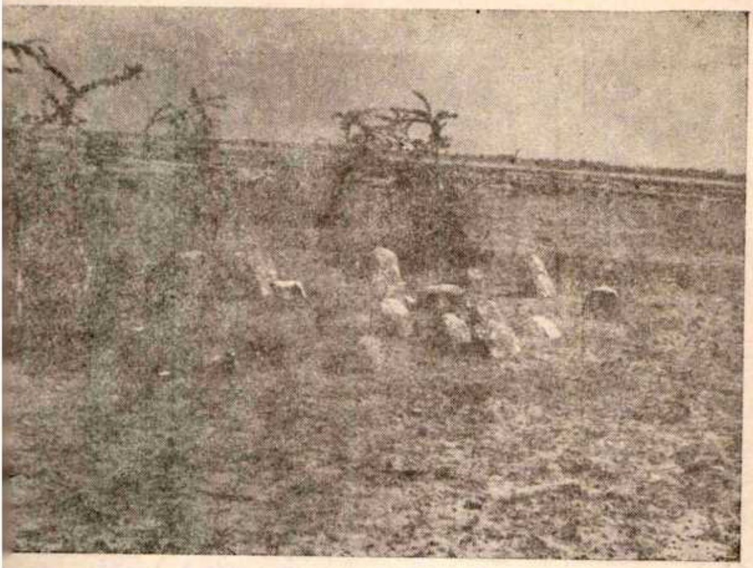


2

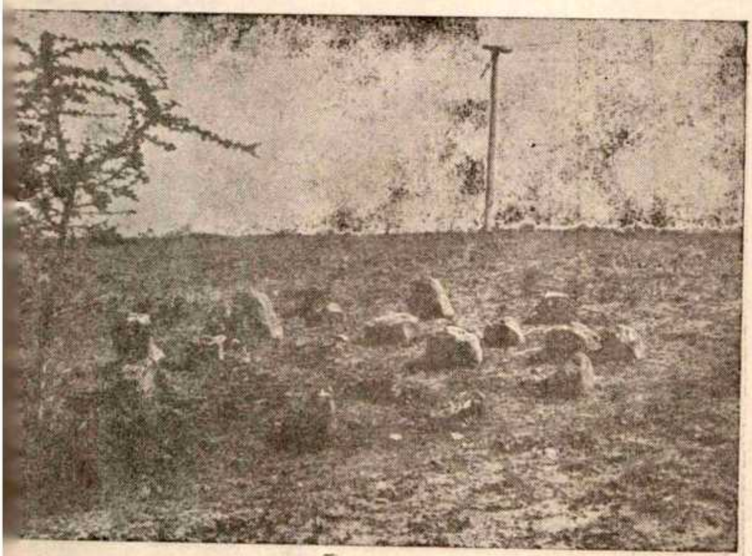


3

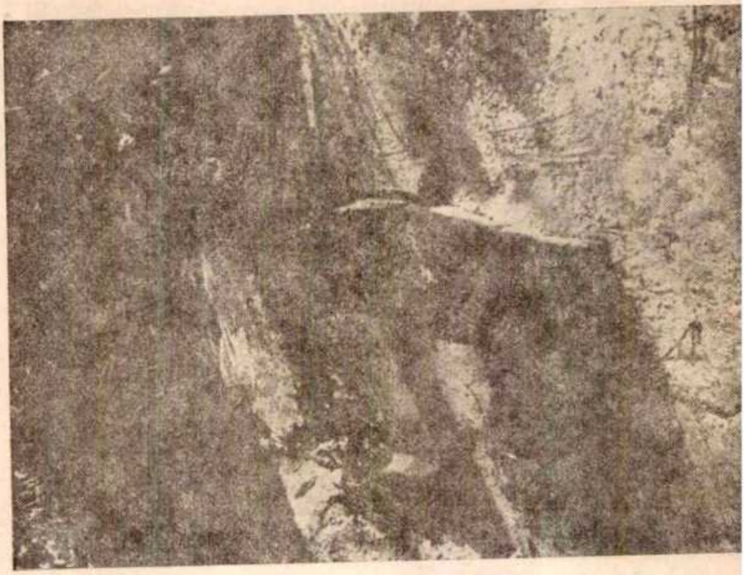
4

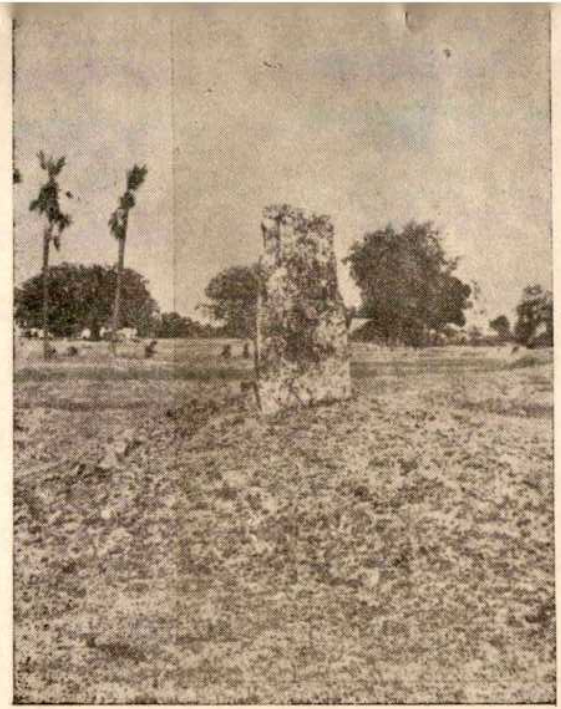


5



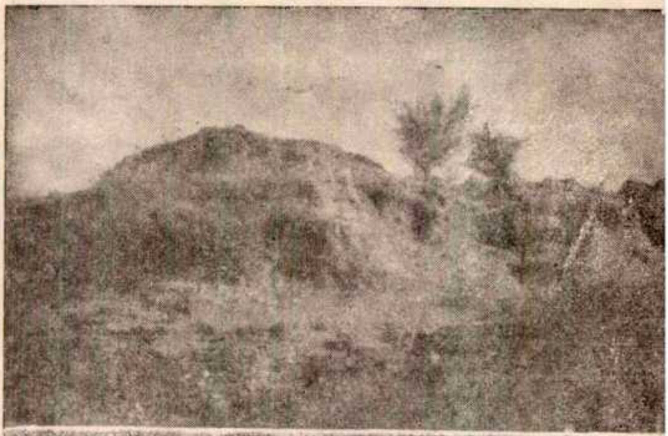
6

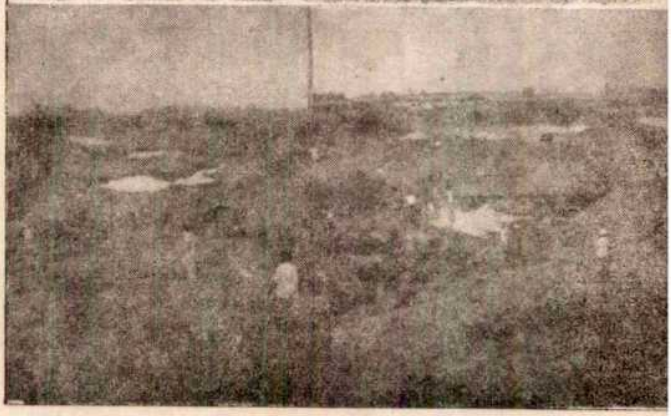


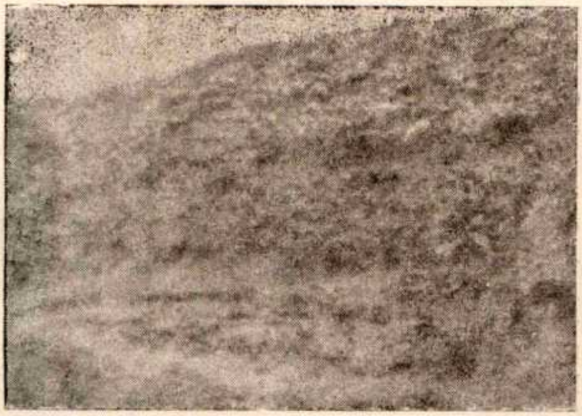


10

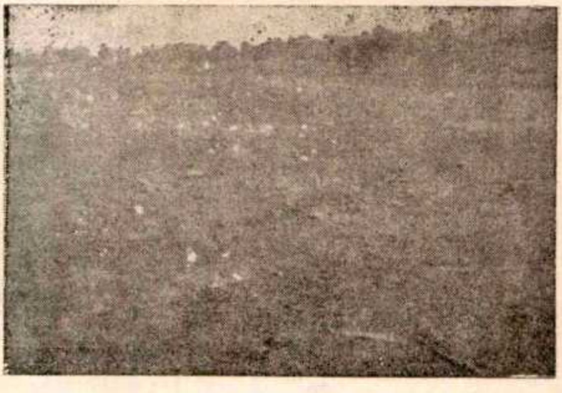
9



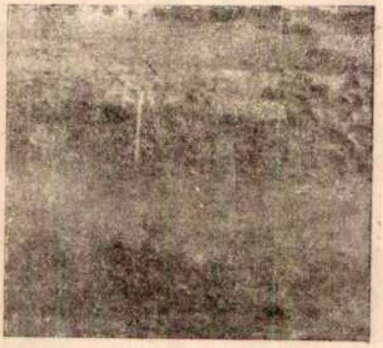




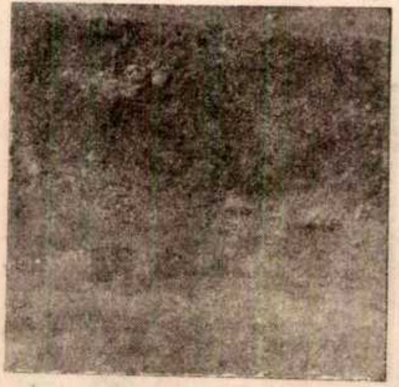
12



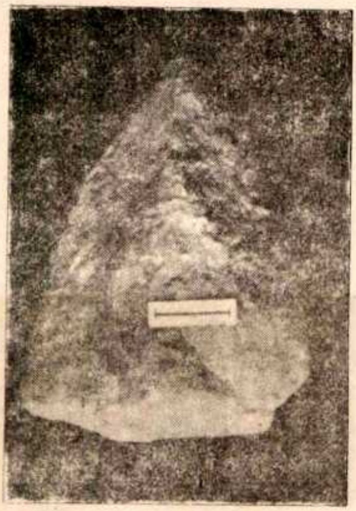
13



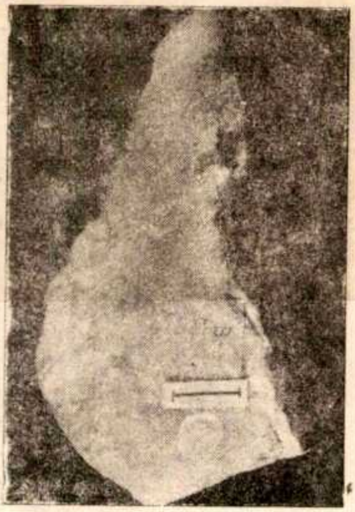
14



15

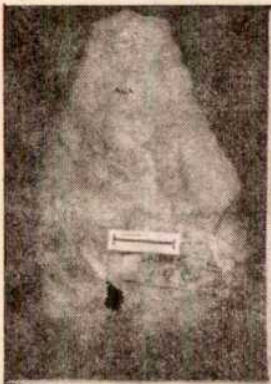


16

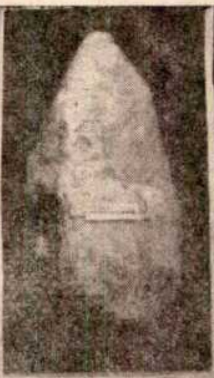


17

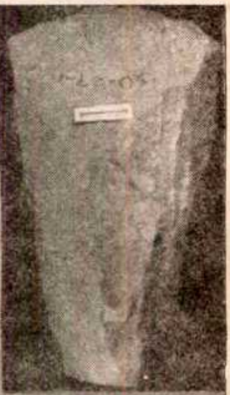
18

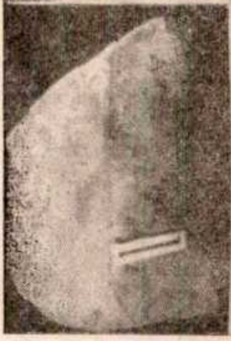


19

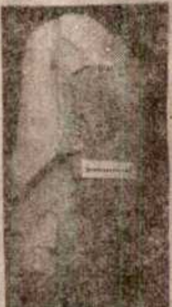


20

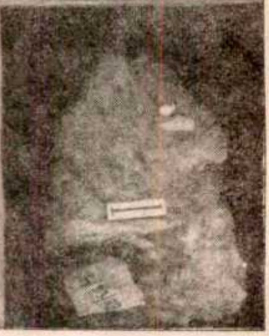




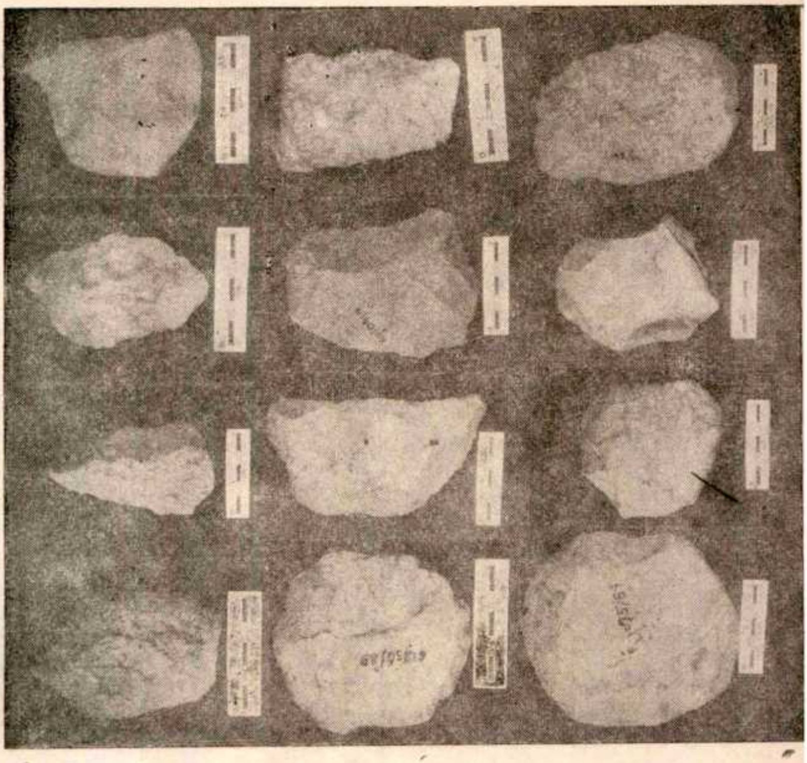
21

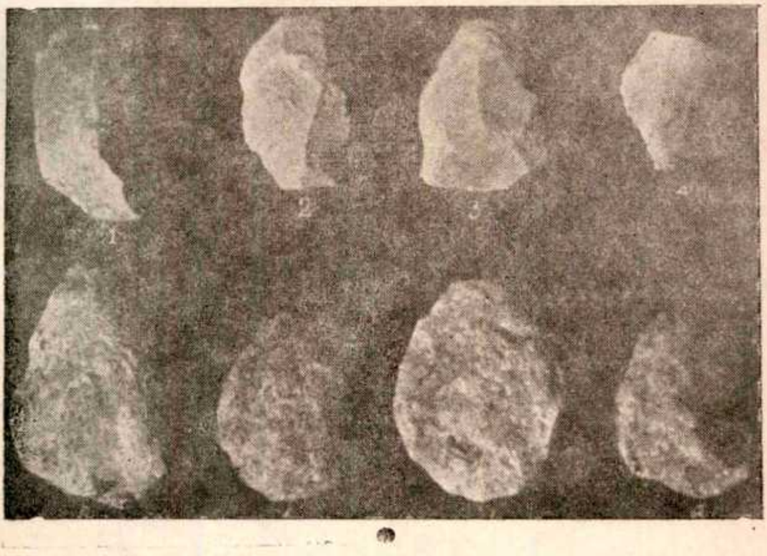


22

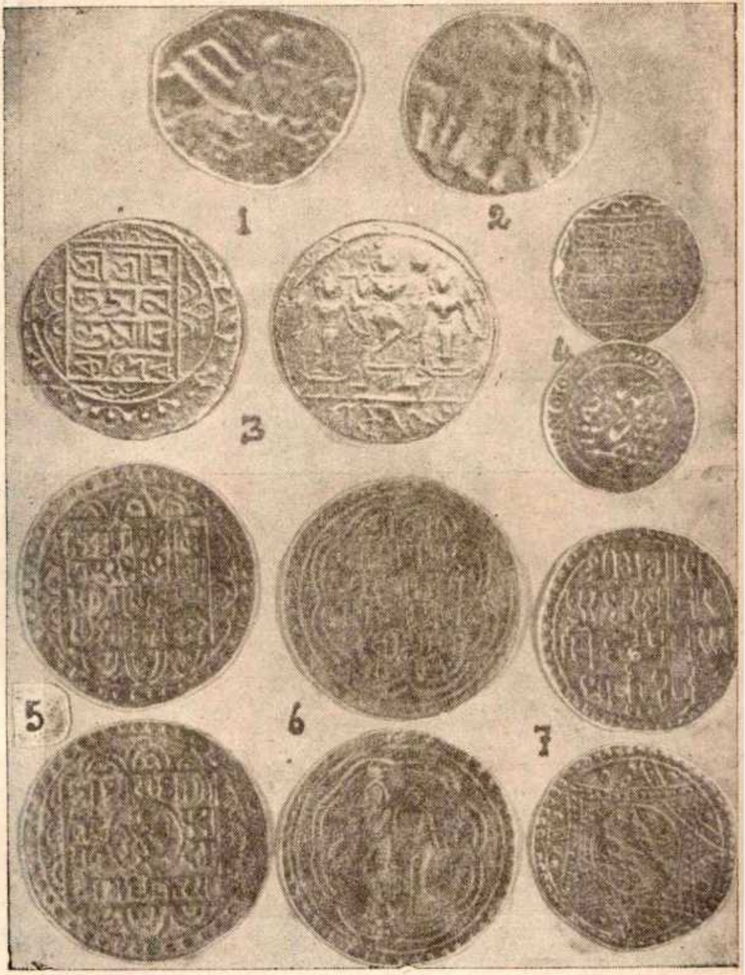


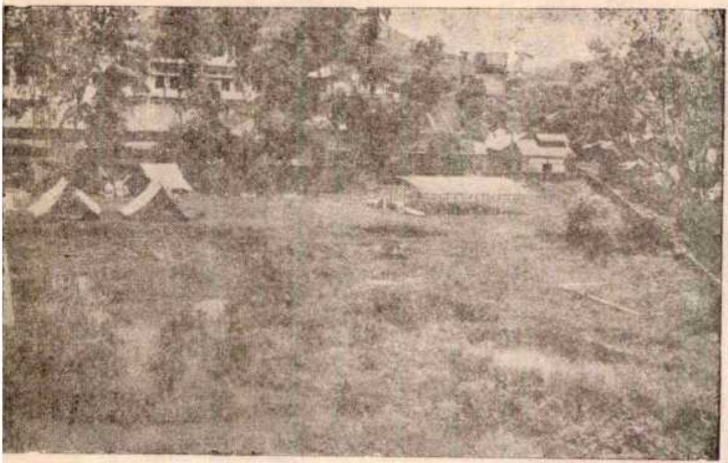
23



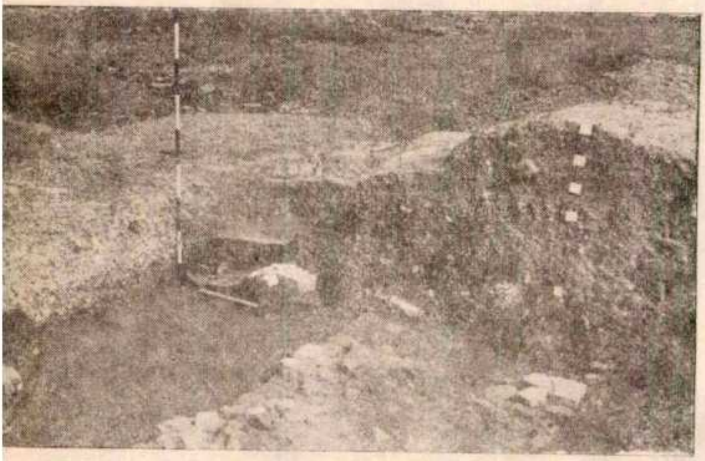

1
2
3
4

26

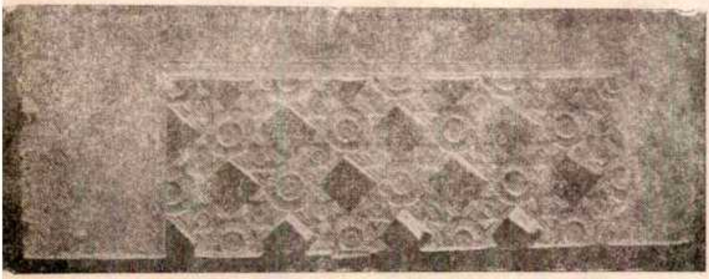

1
2
3
4
5
6
7



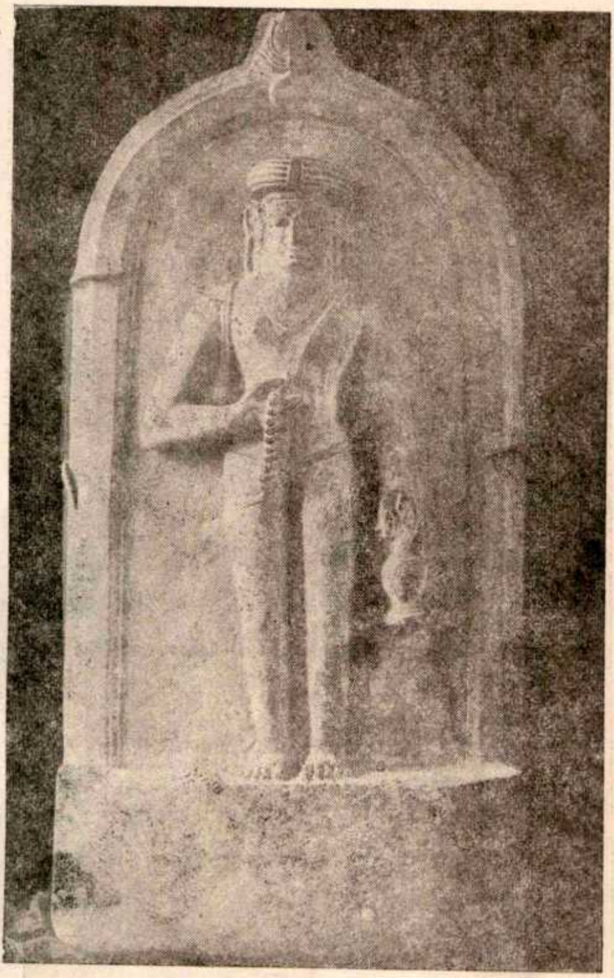
28



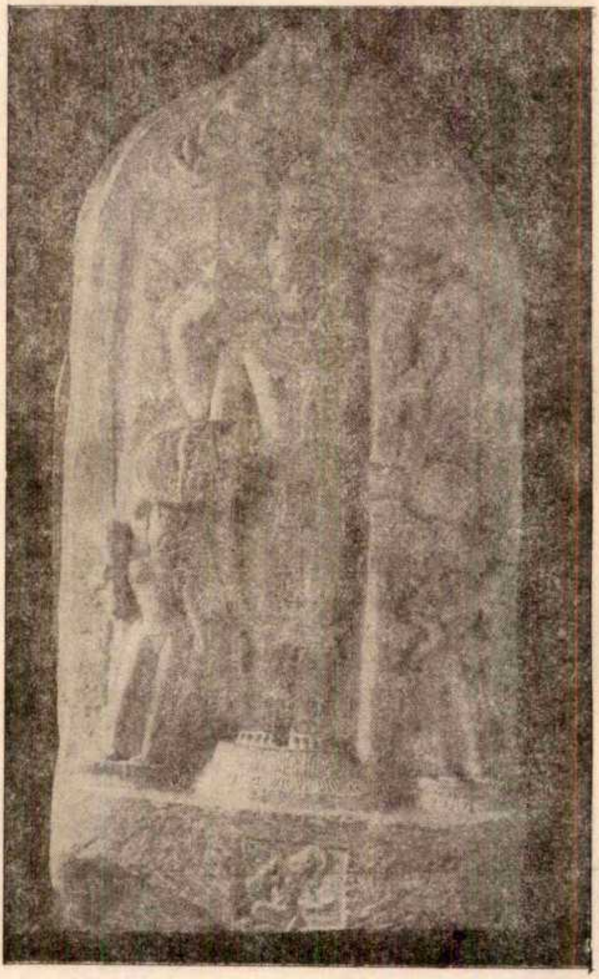
29



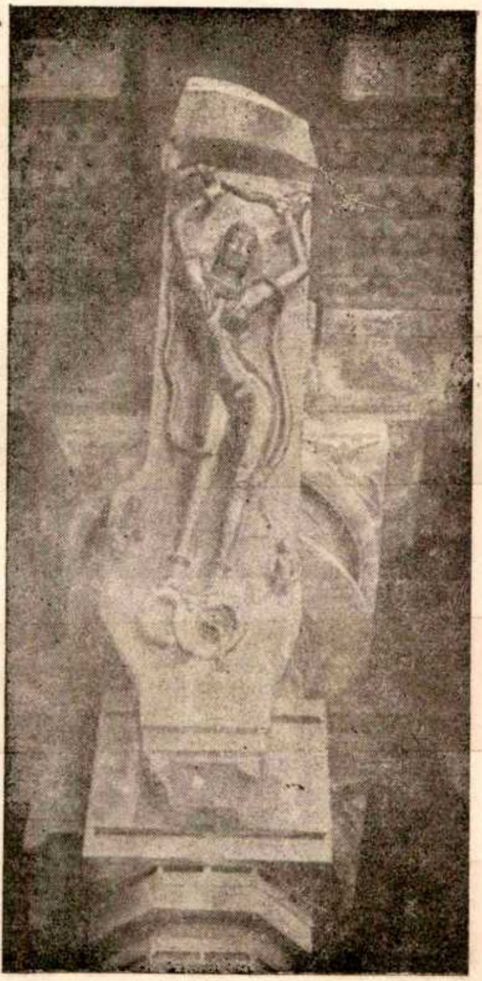
30



31



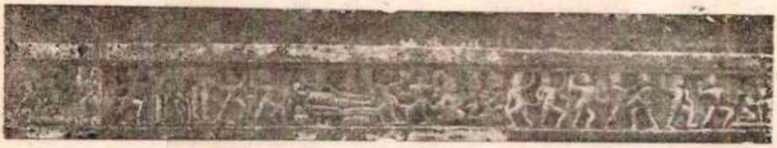
33



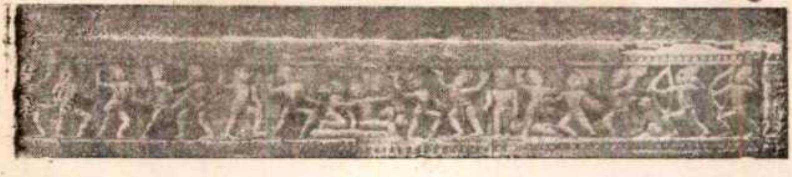
36

37

38



39



40